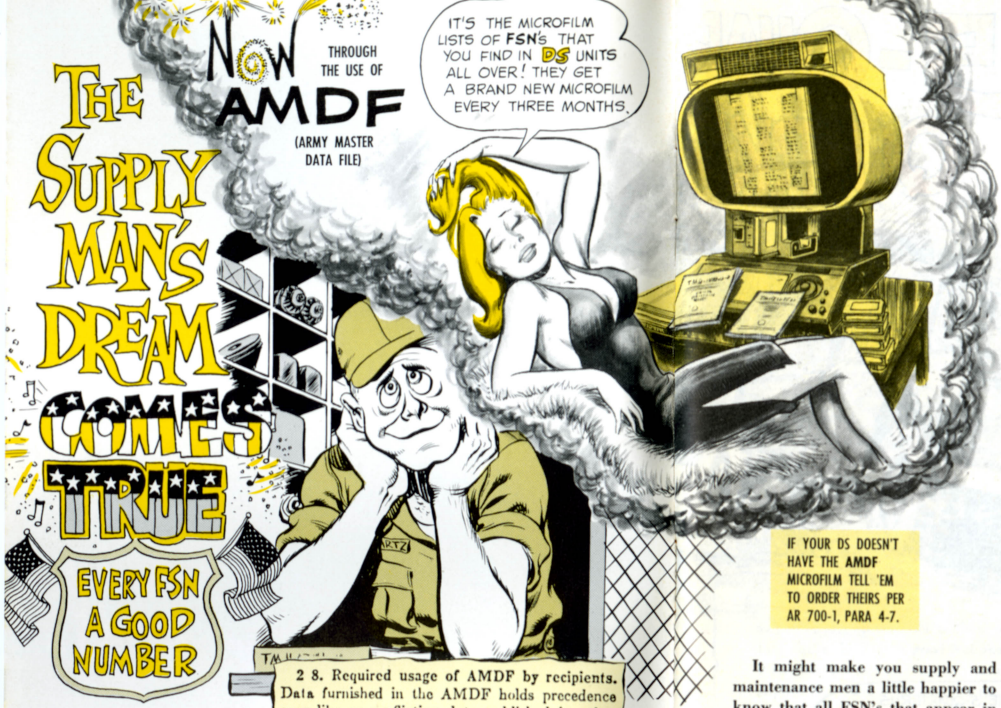
Issue 198
PS
1969 Series
THE PREVENTIVE MAINTENANCE MONTH
SO, MY CANVAS MAINTENANCE AIN'T SO HOT... SO WHAT'S SO CRITICAL ABOUT CANVAS ?
RECOIL
Will Eisner

2 8. Required usage of AMDF by recipients. Data furnished in the AMDF holds precedence over like or conflicting data published in other authorized Department of the Army publications unless otherwise stated in the letters of transmittal.

a. Updating. All segments of the AMDF will

CHANGE 2 TO AR 700-1

That means that the numbers in the AMDF are IT . . . the last word. So, when your supply request is checked against your DS's AMDF, you know it's the latest. And, if a number's not in the AMDF, you forget it unless you want it handled as an exception-type request.



IF YOUR DS DOESN'T HAVE THE **AMDF** MICROFILM TELL 'EM TO ORDER THEIRS PER AR 700-1, PARA 4-7.

That means that the numbers in the AMDF are IT . . . the last word. So, when your supply request is checked against your DS's AMDF, you know it's the latest. And, if a number's not in the AMDF, you forget it unless you want it handled as an exception-type request.

It might make you supply and maintenance men a little happier to know that all FSN's that appear in PS are checked out against the AMDF before they're printed. That includes brand new numbers, too.

Happy maintenance with happy supply!

P.S. – You'll need a copy of SB 700-30 (Jun 68) to use with the AMDF.

PS

Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from U. S. Army Maintenance Board, Attn.: PS Magazine, Fort Knox, Kentucky 40121.

THE PREVENTIVE MAINTENANCE MONTHLY

Issue No. 198 1969 Series

IN THIS ISSUE

GROUND MOBILITY 2-19, 37-46

1¼-Ton Trucks	2-13	New Fuel Filters	16-18
Multifuel Truck	14	Hydraulic Fittings	19
M151A1	14	Tarp Handling	37-39
12-Ton Trailer	15	M551 Sheridan (Part 2)	40-46
Leak Checker	15		

FIREPOWER 20-27

M109 Howitzer	20	M16A1 Rifle	21
M1 Collimator	20	.45 Cal Pistol	22-23
M36 Radar Chronograph	24-27		

COMMUNICATIONS 47-52

CG-1773A/U	47	AB-577/GRC	49
AN/TRC-35, -36	48	TT-76/1/GGC	49
Radio Decal	48	Commo Scoundrels	50-52

AIR MOBILITY 53-62

Hardware Torque	53	OV-1	54
Seminole Tube	53	Starter Poop	54
OH-6A	54	T-41B	55
XM27E1 Subsystem	56-62	CH-47	55

GENERAL AND SUPPLY

5 KW Generator	63	Generator Pub	64
Engine Decal	63	WABCO Grader	64
New Publications	28		
Supply	1, 4, 13, 14, 15, 17, 18, 20, 21, 26, 27, 44, 45, 46, 53, 54.		

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 26 February 1968.

DISTRIBUTION: In accordance with requirements submitted on DA Form 12-4.

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

Sgt. Half-Mast,
PS Magazine,
Fort Knox, Ky.
40121

IF YOUR DS DOESN'T HAVE THE **AMDF** MICROFILM TELL 'EM TO ORDER THEIRS PER AR 700-1, PARA 4-7.

It might make you supply and maintenance men a little happier to know that all FSN's that appear in PS are checked out against the AMDF before they're printed. That includes brand new numbers, too.

Happy maintenance with happy supply!

P.S. – You'll need a copy of SB 700-30 (Jun 68) to use with the AMDF.

PS

Published by the Department of the Army for the Information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from U. S. Army Maintenance Board, Attn.: PS Magazine, Fort Knox, Kentucky 40121.

THE **PREVENTIVE MAINTENANCE** MONTHLY

Issue No. 198 1969 Series

IN THIS ISSUE

GROUND MOBILITY 2-19, 37-46

1¼-Ton Trucks	2-13	New Fuel Filters	16-18
Multifuel Truck	14	Hydraulic Fittings	19
M151A1	14	Tarp Handling	37-39
12-Ton Trailer	15	M551 Sheridan (Part 2)	40-46
Leak Checker	15		

FIREPOWER 20-27

M109 Howitzer	20	M16A1 Rifle	21
M1 Collimator	20	.45 Cal Pistol	22-23
M36 Radar Chronograph	24-27		

COMMUNICATIONS 47-52

CG-1773A/U	47	AB-577/GRC	49
AN/TRC-35, -36	48	TT-76()/GGC	49
Radio Decal	48	Commo Scoundrels	50-52

AIR MOBILITY 53-62

Hardware Torque	53	OV-1	54
Seminole Tube	53	Starter Poop	54
OH-6A	54	T-41B	55
XM27E1 Subsystem	56-62	CH-47	55

GENERAL AND SUPPLY

5 KW Generator	63	Generator Pub	64
Engine Decal	63	WABCO Grader	64
New Publications	28		
Supply	1, 4, 13, 14, 15, 17, 18, 20, 21, 26, 27, 44, 45, 46, 53, 54.		

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 26 February 1968.

DISTRIBUTION: In accordance with requirements submitted on DA Form 12-4.

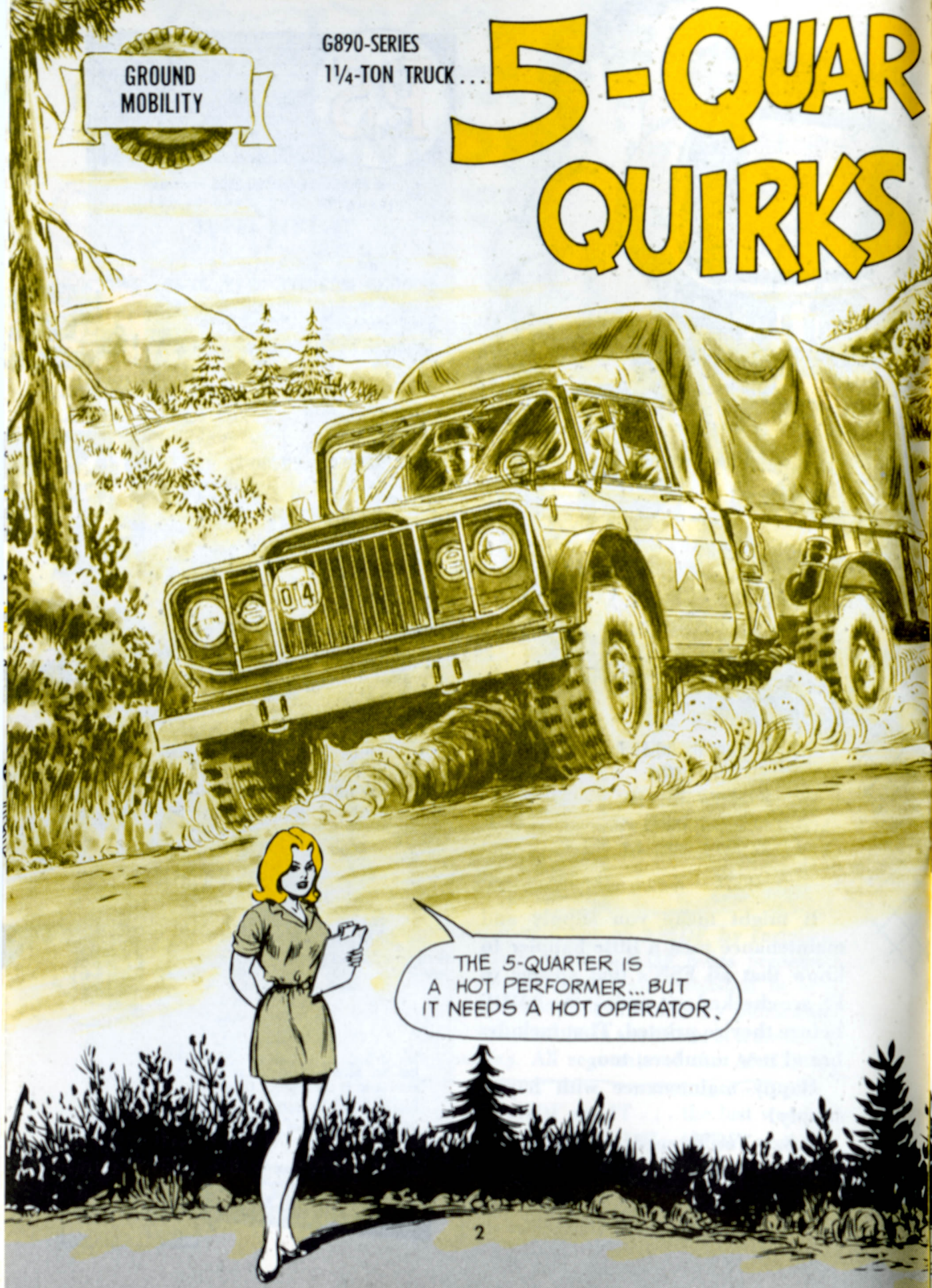
PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

Sgt. Half-Mast,
PS Magazine,
Fort Knox, Ky.
40121

GROUND MOBILITY

G890-SERIES
1¼-TON TRUCK...

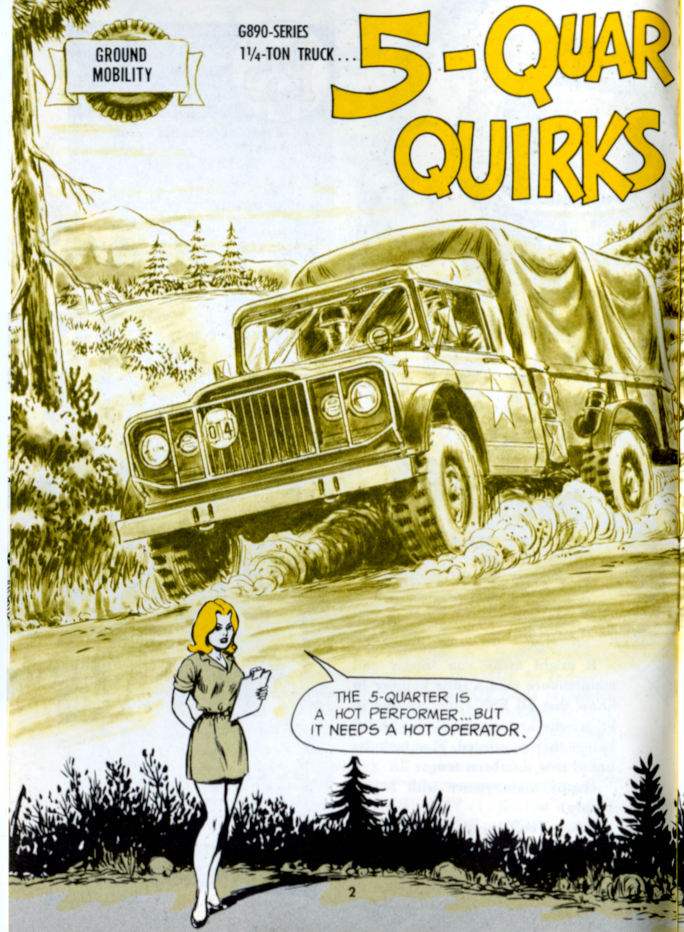
5-QUAR QUIRKS

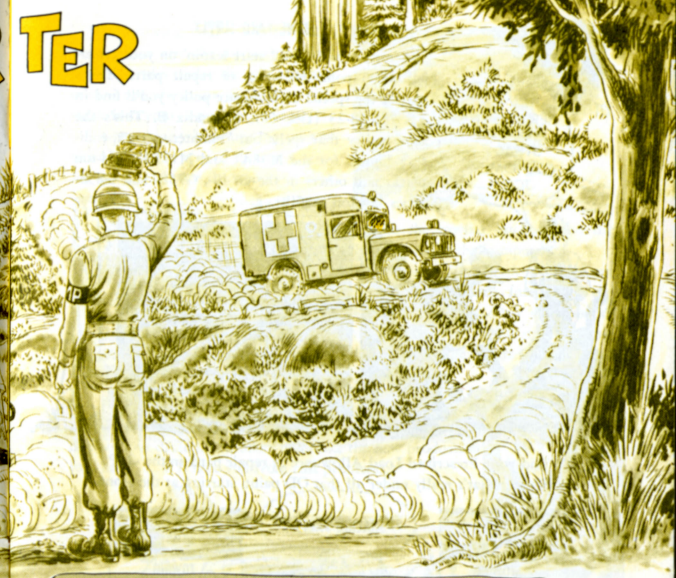


GROUND MOBILITY

G890-SERIES
1¼-TON TRUCK...

5-QUARTER QUIRKS





So you've met up with one of those new G890-series 1-1/4-ton trucks.

You figure she's got a good feel and's a hot performer, so you're goin' steady.

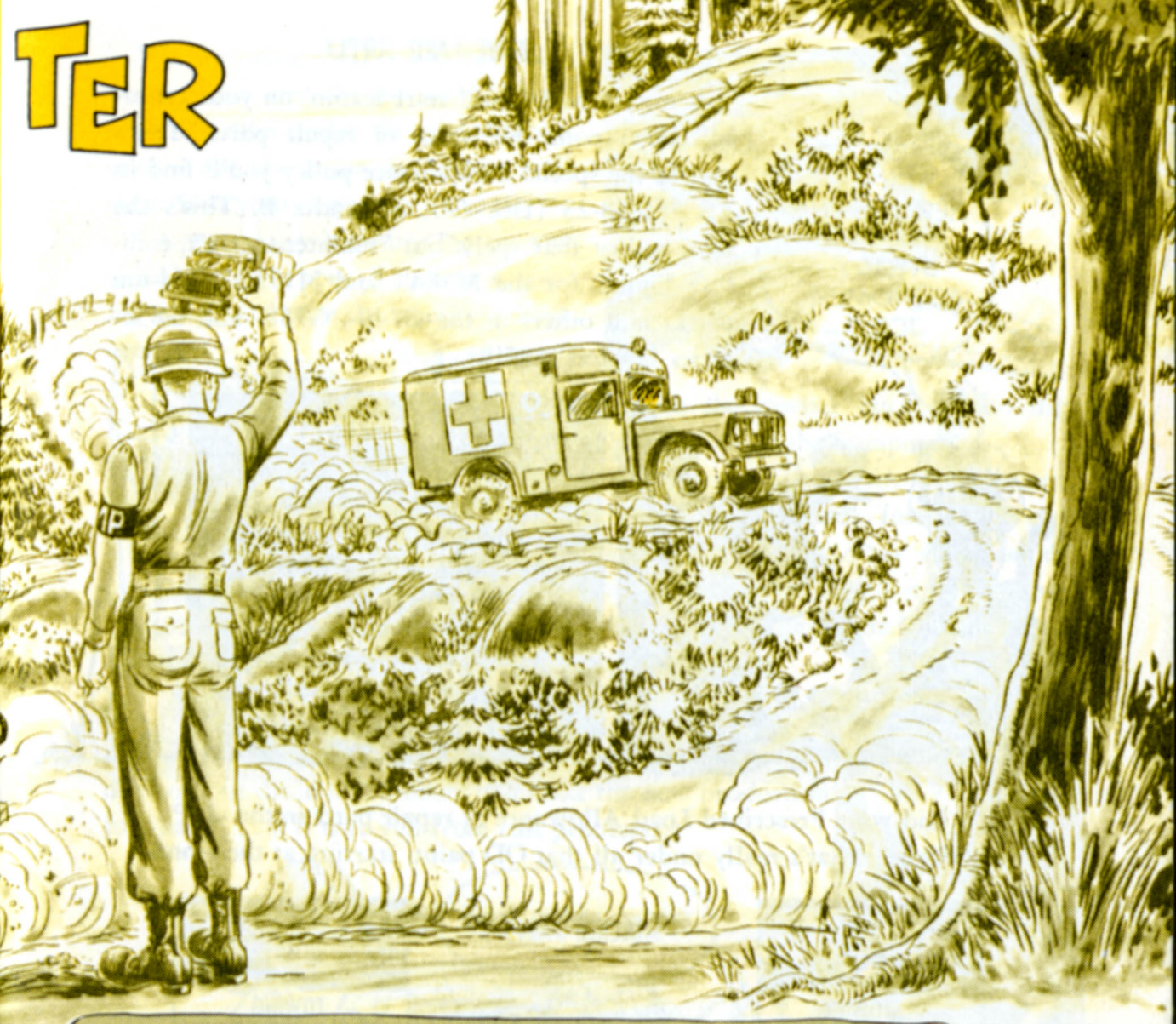
Well, just ask any married guy how much he really knew about his gal when he slipped that band o' gold on her pinkie—he'll tell you he learned puh-lenty about her special little ways after the knot was tied.

Your 5-quarter M715 cargo truck or M725 ambulance has its quirks, too. You can learn 'em the hard way or—read on:

...IN THE ARMY NOW

Your 5-quarter is a "militarized" version of a commercial-design vehicle. It has a 24-volt, waterproof electrical system and a bunch of other special Army features.

PS MORE



So you've met up with one of those new G890-series 1-1/4-ton trucks.

You figure she's got a good feel and's a hot performer, so you're goin' steady.

Well, just ask any married guy how much he really knew about his gal when he slipped that band o' gold on her pinkie—he'll tell you he learned puh-lenty about her special little ways after the knot was tied.

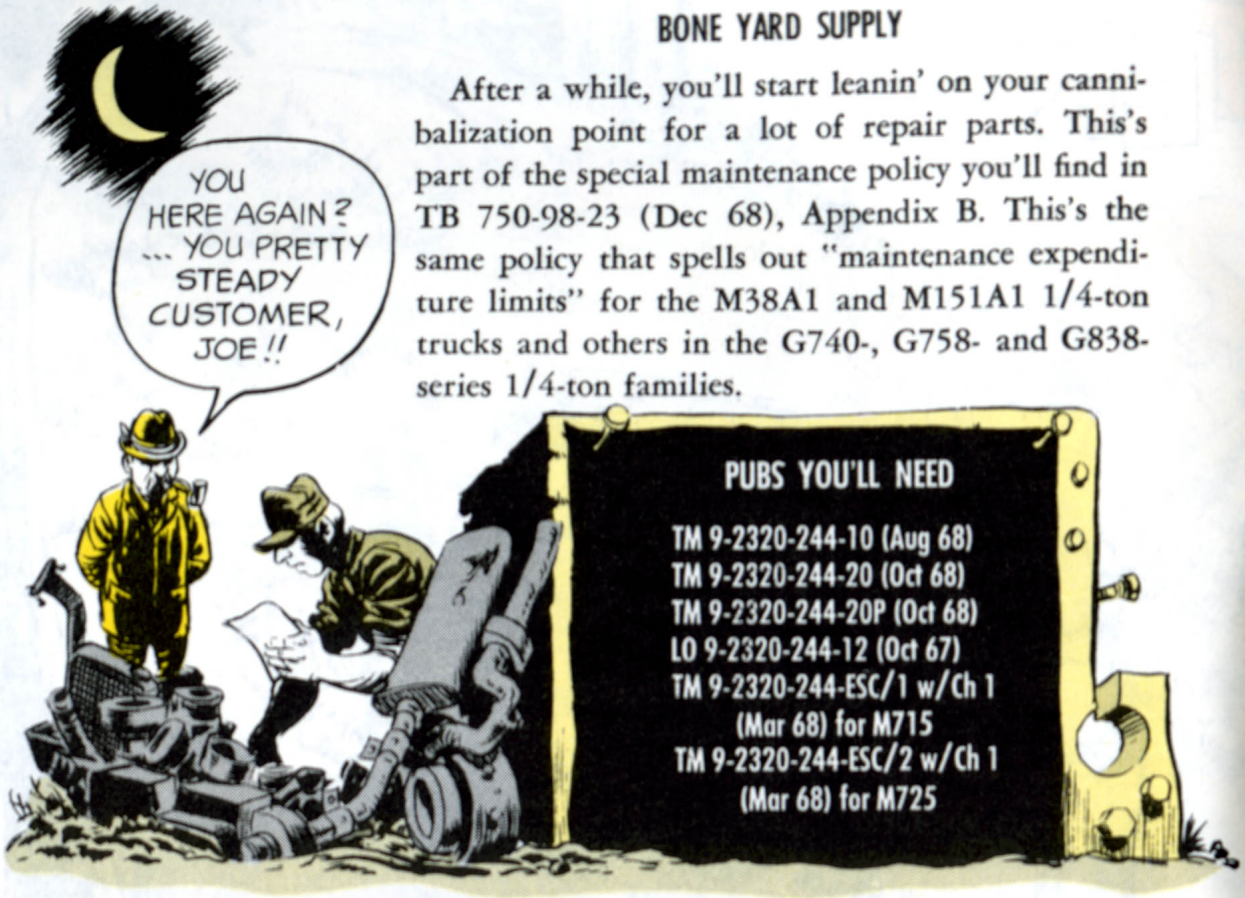
Your 5-quarter M715 cargo truck or M725 ambulance has its quirks, too. You can learn 'em the hard way or—read on:

...IN THE ARMY NOW

Your 5-quarter is a "militarized" version of a commercial-design vehicle. It has a 24-volt, waterproof electrical system and a bunch of other special Army features.

PS MORE

BONE YARD SUPPLY



After a while, you'll start leanin' on your cannibalization point for a lot of repair parts. This's part of the special maintenance policy you'll find in TB 750-98-23 (Dec 68), Appendix B. This's the same policy that spells out "maintenance expenditure limits" for the M38A1 and M151A1 1/4-ton trucks and others in the G740-, G758- and G838-series 1/4-ton families.

You'll find your Prescribed Load Allowance of repair parts in the -20P. Now let's see what's really under all that OD paint, starting at the front.

SHACKLE FACTS

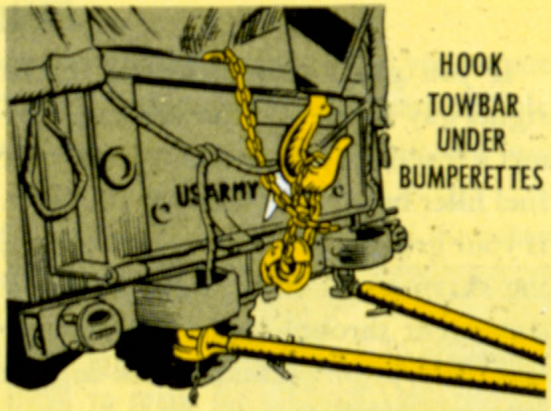
When you're not using those front shackles for towing, they stay mounted behind the bumper. Then they don't mash into the bumper if you happen to "kiss" another vehicle.

For towing, you remount your shackles hangin' out through the bumper slots. Then you can hook up to 'em with the towbar on an M62 or M543 5-ton wrecker.

Towing front-wheels-up calls for lifting with the wrecker hook at the center of the bumper after attaching the towbar to the shackles.

When towing your 5-quarter backward, make sure the towbar's hooked to the shackles **under** the rear bumperettes—**not** above, or the towbar will mash into your 5-quarter's tailgate.

To tow rear-wheels-up, loop a tow chain through your 5-quarter's towing pintle and over the wrecker's hook

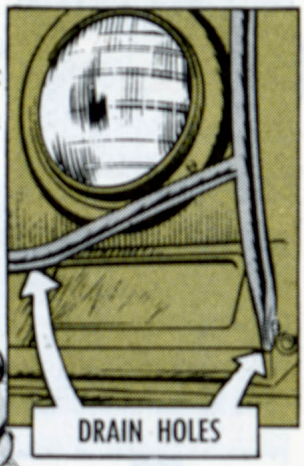


—with the towbar latched onto the shackles **under** the bumperettes.

You hang your front shackles out through the bumper for flatcar tiedown. If you have your shackles behind the bumper, they'll strain against the bottom edge of the bumper and bend it.

BRUSH WITH RUST

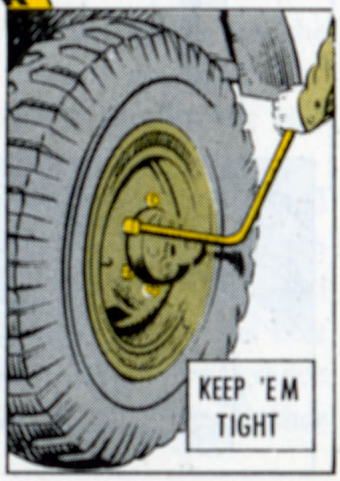
Take a squint at that tubular brush guard. If you've got one without drain holes, make holes like the new production jobs have . . . it'll save you from rust problems.



Lug nuts need plenty of tightening to keep your wheel snug on the hub—300 lbs-ft.

If you don't have a torque wrench handy, just figure that's about as much torque as the average guy can put on with the truck's OEM lug wrench—but no standing or jumping on the wrench.

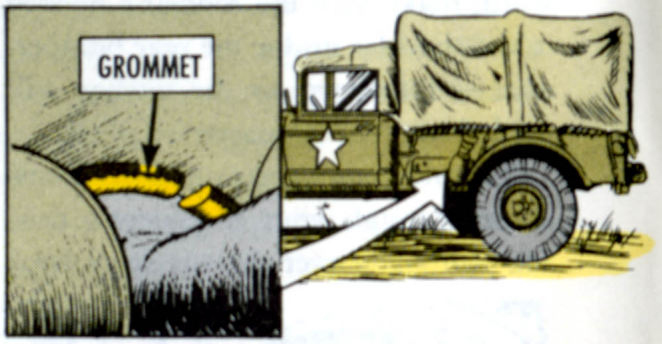
And make sure the studs are centered in the lug nut holes before you tighten the nuts down. If you don't have full-circle support on those nuts, you'll find your wheel bustin' up around the holes.

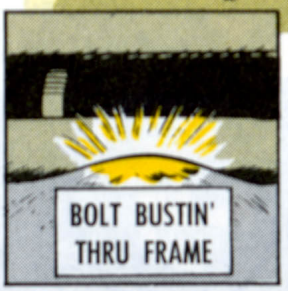


PS MORE

A REAL SHARPIE

If you get a new 5-quarter, check rightaway to see that the rubber grommet's installed proper-like where your fuel filler hose comes through the body. If your grommet's slipped part way out, the sharp metal edge of the hole will slice right through your flexible filler hose. Work the grommet back in so it protects your hose.

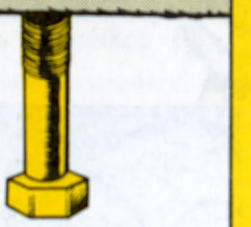




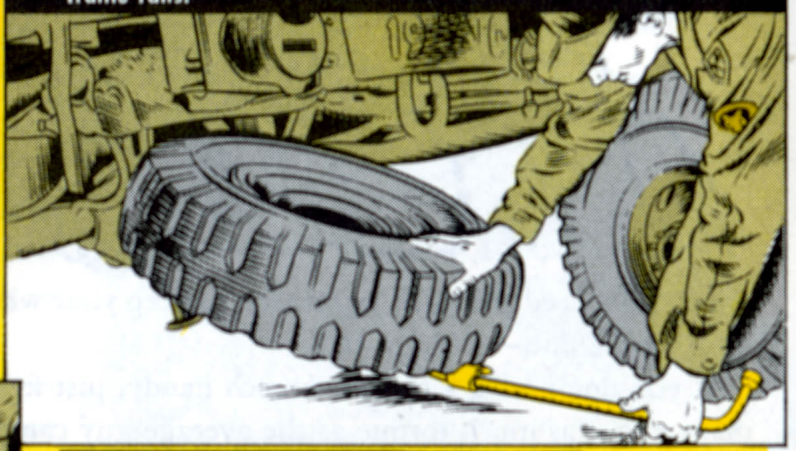
There's no need to run your spare tire retainer bracket up as far as you can muscle it. Some guys've bent the retainer clean out of shape—even running the mounting bolt right through the top of the frame.

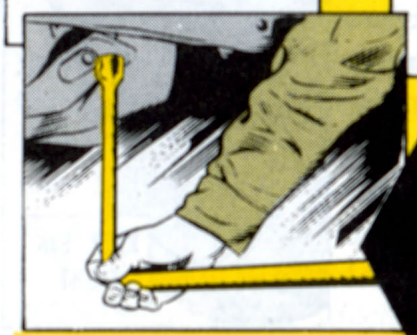
Here's the **right** way to install your 5-quarter's spare tire 'n' wheel:

1. Turn the bolt down—just far enough so the retainer can latch onto it.



2. Set the spare in place—and be sure it's centered between the frame rails.





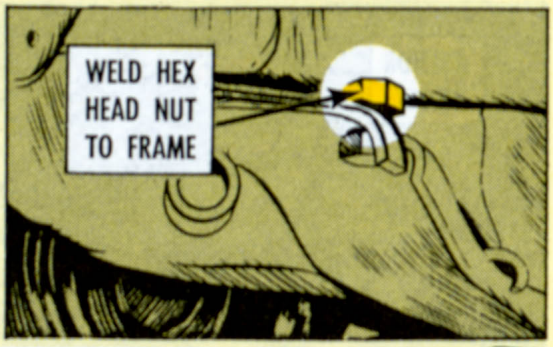
3. Latch up the retainer bracket to the bolt.

4. Now take it easy when you're tightening 'er up. When you've got the bolt turned up so the retainer's pressin' good'n'snug against the tire, quit! This pressure will act just like a split lock washer to keep the bolt from backing out.

FROZEN NUT?

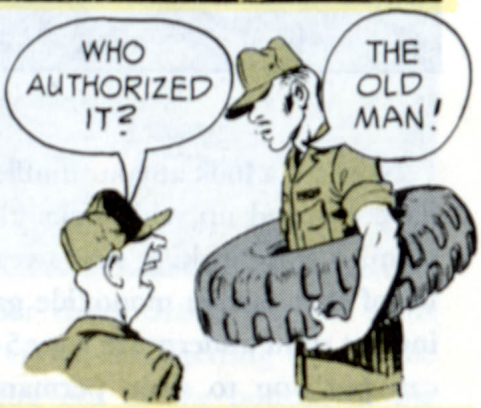
You can't see it, but there's a nut welded inside the frame where your spare tire retainer bolt screws in. If you don't keep a little lube on that retainer bolt, it can rust and freeze in the nut. Then when you try to turn the bolt, the nut busts loose—and you can't get the bolt out. So you're in a fix.

But here's a fix for that fix. Cut off the head end of the bolt. Fish the other end of the bolt (with the nut) out of the frame. Get a new 9/16 x 12 UNC hex nut and weld it on the outside of the frame, in line with the hole. Add a new bolt, 9/16 x 12 UNC, 5.06-in long and threaded 3.72 inches (you may have to add threading to get this much). Then you're back in business.

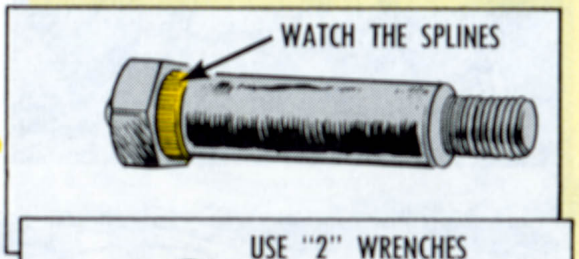


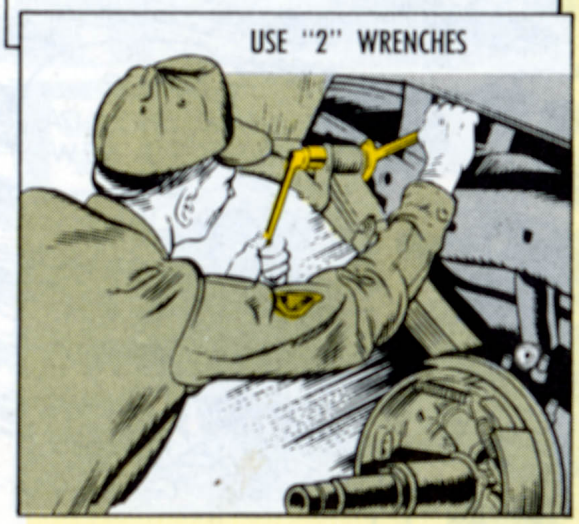
EXTRA SPARE TIRE

Nope, your 5-quarter's spare tire 'n'wheel won't fit the 3/4-ton trailer you're towing. So, if you're going on a long haul, your CO may want to authorize you to carry a spare tire'n' wheel for your trailer. Your "can" point should have plenty of spares — tires'n'wheels from 3/4-ton trucks. And you'll need a lug wrench to fit, too.



SPRING SHACKLE BOLT





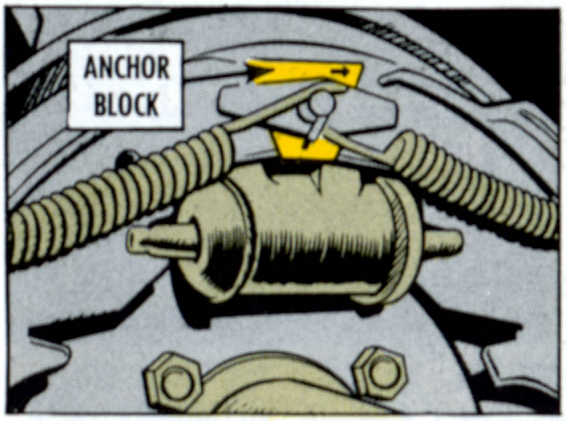
Pity that spring shackle bolt when some guys get ahold of the head end with a wrench and give it a twist—they shear off the splines that hold the bolt firm in the shackle. Then, if it's put back in this shape, spring action will probably turn the spring on the bushing where there's no lube. The bushing's supposed to turn on the bolt where there is lube.

Save the splines by holding the head end of the bolt steady with one wrench while turning the nut off the other end with another wrench. Puttin' the bolt back, hold the head end with a wrench and turn the nut on with your other wrench.

P.S. MORE

GIVE 'EM A BREAK

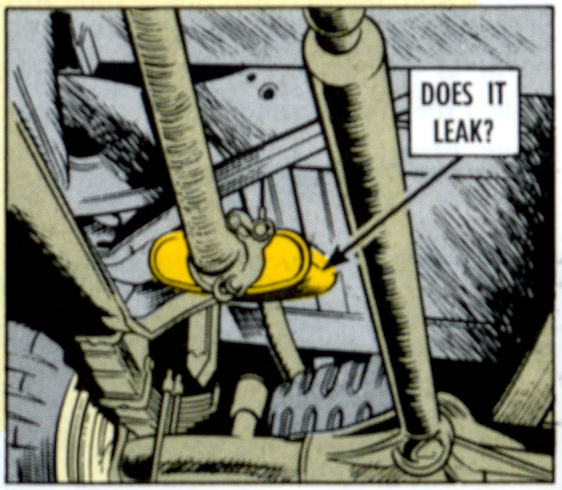
Brake shoes on your 5-quarter are different from what you'll find on other tactical wheeled vehicles—the front, or primary, shoe in each wheel has a shorter lining than's on the rear shoe. Make sure you install 'em that way—and they'll give you a brake.

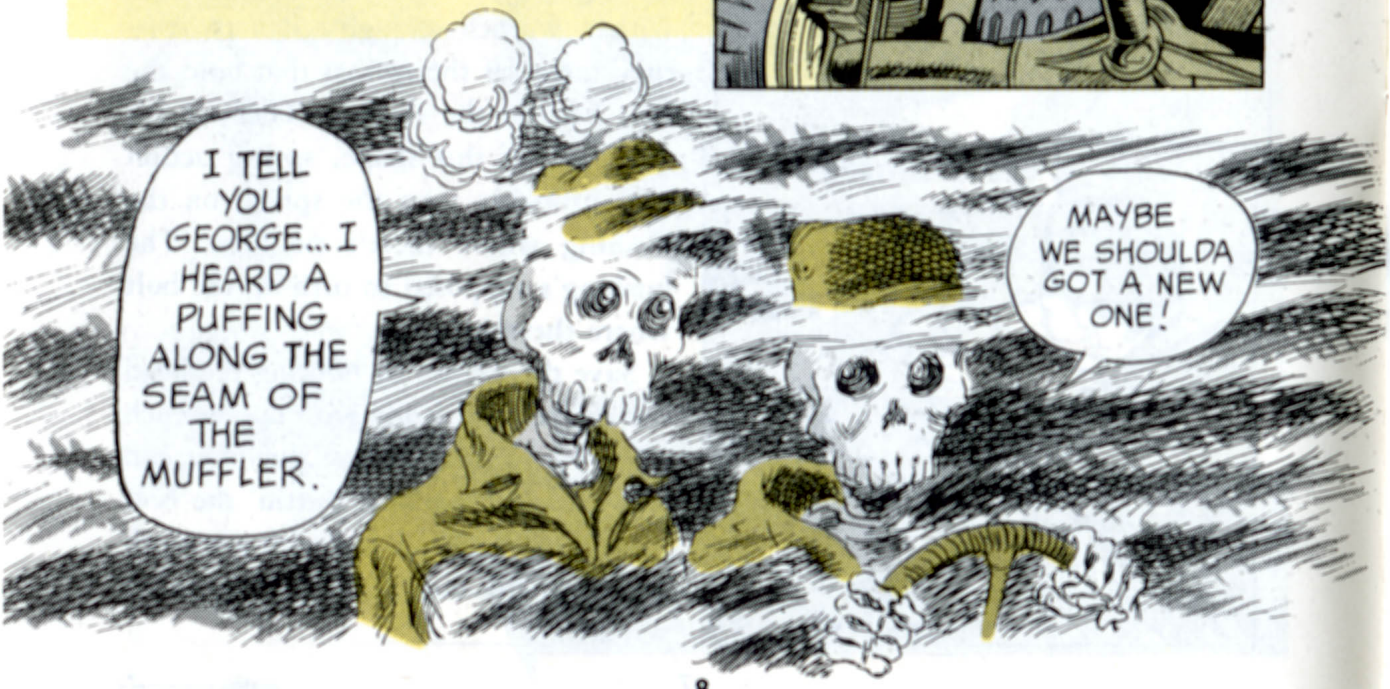


And if you happen to have that brake shoe self-center anchor block off the backing plate, make sure you put it back with the arrow pointing toward the front of your 5-quarter. Otherwise, your brake shoes won't fit against the drums like they're supposed to — and you'll get quite a surprise when you want to stop quick!

A REAL GASSER?

Now for a look at your muffler. Some have cropped up with leaks along the seam. A little leaking's no sweat, but a lot of that carbon monoxide gas pouring out right underneath your 5-quarter can put you to sleep permanently—especially if you're sittin' still with the engine running, like during radio operation.



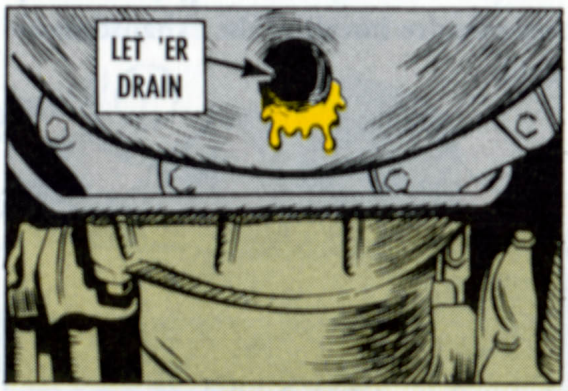


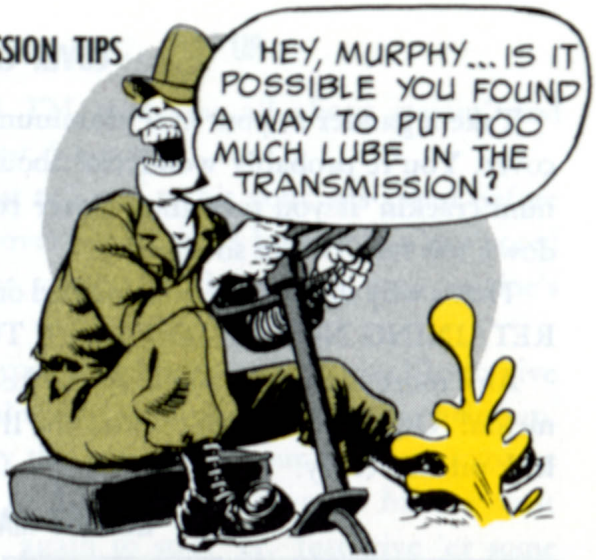
Next stop — your rear transmission support.

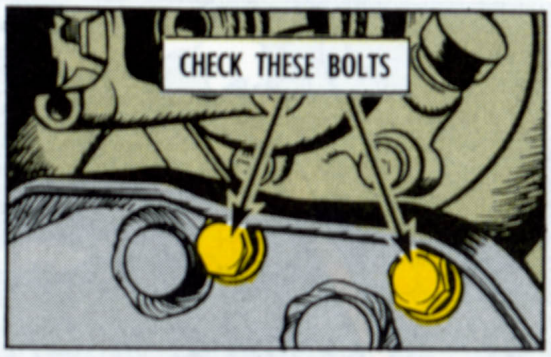
Lube seeping down around here may mean the support bolts that hold the rear mount to the transmission are loose. Get 'em checked or tightened. And make sure there's a breather on top of your transmission.

Speakin' of transmission lube, too much GO (gear oil) can mean no go. Your LO says to fill your transmission just up to the fill hole. It's not easy to get in more — but it's been done. What happens? Gear lube works out of your transmission and into your clutch. With a slipping clutch, you go nowhere — except into the shop for replacement of the clutch.

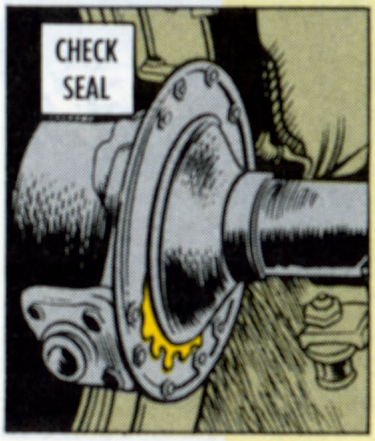
So take it slow'n'easy when filling your transmission — just to the fill hole and no more!







Another thing that'll put the skids on your clutch is forgetting to take the drain plug out of the bottom of the flywheel housing. With the plug installed, any oil getting into the housing will build up and give your clutch a bad case of slip-itis. Unless you're fording or driving through a lot of water that flywheel housing plug stays in your glove compartment.



SLOPPY KNUCKLES?

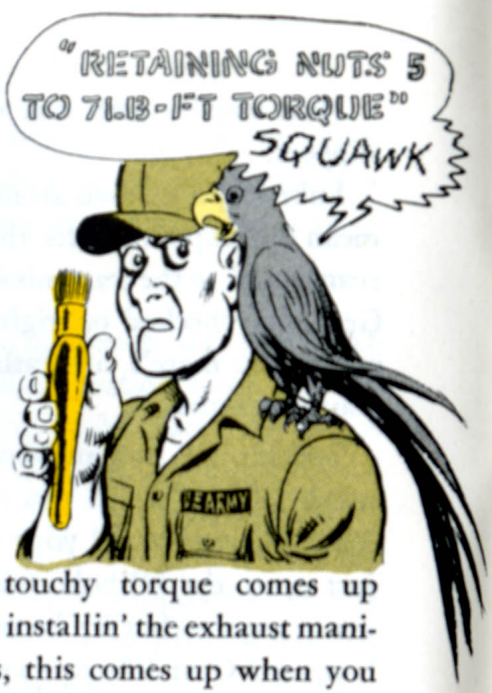
Scoot up'n'peek at your steering knuckles. You may find 'em slopped up with GAA weepin' out. Or it may be GO seepin' out of the differential past the inner oil seal. This stuff'll thin your GAA so you have both runnin' out.

So you have to clean and repack. And be sure to check the inner axle shaft seal — replace it if it's bad.

Now back on your feet'n'let's hang into your 5-quarter's engine compartment.

PS MORE

COVER CAUTION

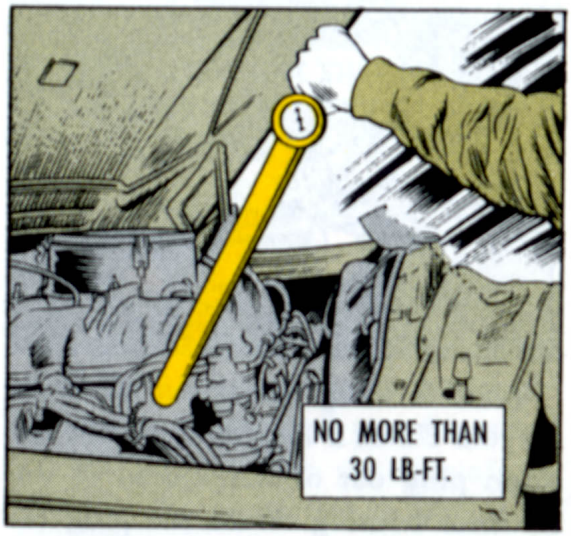


Take a gander at your cast aluminum rocker arm cover. You're probably wonderin' about cast aluminum crackin' if you turn those cover retaining nuts down too far. You're so right!

That's why this should be stencilled on your cover: RETAINING NUTS 5 TO 7 LB-FT TORQUE.

Any more'n that 'n' she'll split like an overripe melon! Or, if she doesn't bust, she'll spread and leak oil like crazy.

EXHAUST MANIFOLD, TOO



Another touchy torque comes up when you're installin' the exhaust manifold. Fact is, this comes up when you get a brand-new 5-quarter.

On a new vehicle, loosen those exhaust manifold retaining nuts and retighten 'em to 25-30 lb-ft. Do 'em in the right order — like it shows in fig C-3 in your -20 TM.

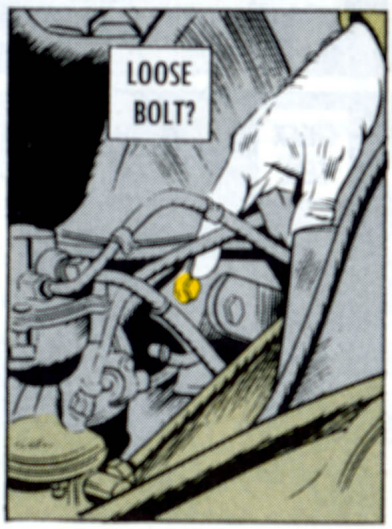
Now stick to that torque limit any time you're installin' the exhaust manifold.

PREPARE TO MOUNT AND . . .

Whoops — before you lay that hood back down and button 'er up, there's a plain ol' bolt down in there that could have an interesting story to tell. It's that top left mounting bolt on the timing chain cover.

Your timing chain comes within a hair or two of hitting this bolt under normal engine speed. But if you rev up your engine too high, the timing chain may reach out and run against this bolt — and back that ol' bolt right out!

But, if the bolt won't stay tight, have your support check for a bad timing chain tensioner.



...FIRE UP

Your -10 TM tells you all about startin' and operatin' your 5-quarter.

It does **not** tell you to hit your gas pedal before you turn 'er over—and that's because you're s'posed to leave that gas pedal alone until your engine's running.

Maybe in your own bucket o' bolts you like to give that ol' pedal a slap with your foot before firin' up, but if you try this stunt with your 5-quarter, you're almost sure to flood 'er. Then you'll have a wait before tryin' again to start 'er. Just give 'er some choke — 1/2 way in warm weather. All the way out in real cold weather.

SPOOKY ENGINE?

You might be surprised someday when you turn off your ignition switch—and find your engine just won't quit. Nope, it's not spooks—it's dieseling.

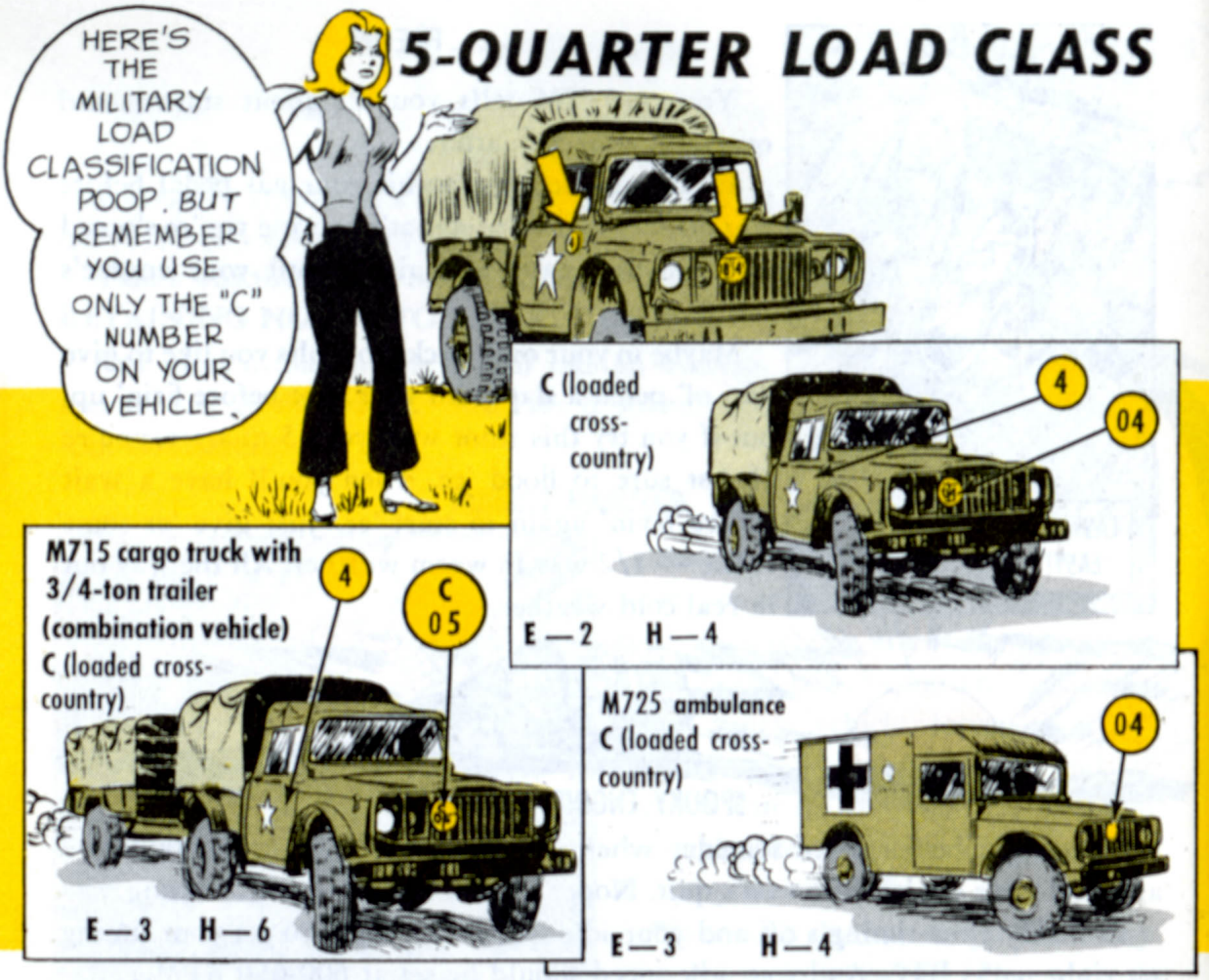
Probably your timing's off and your idle speed's too high. So get your timing set right — 5° BTC. And your idle speed should be set at 600-650 RPM.

SPECIAL IDLE

But 600-650 RPM idle isn't fast enough when your 5-quarter's totin' the 100-amp alternator kit and you're operatin' radio equipment. Too low an idle will foul up your spark plugs in short order.

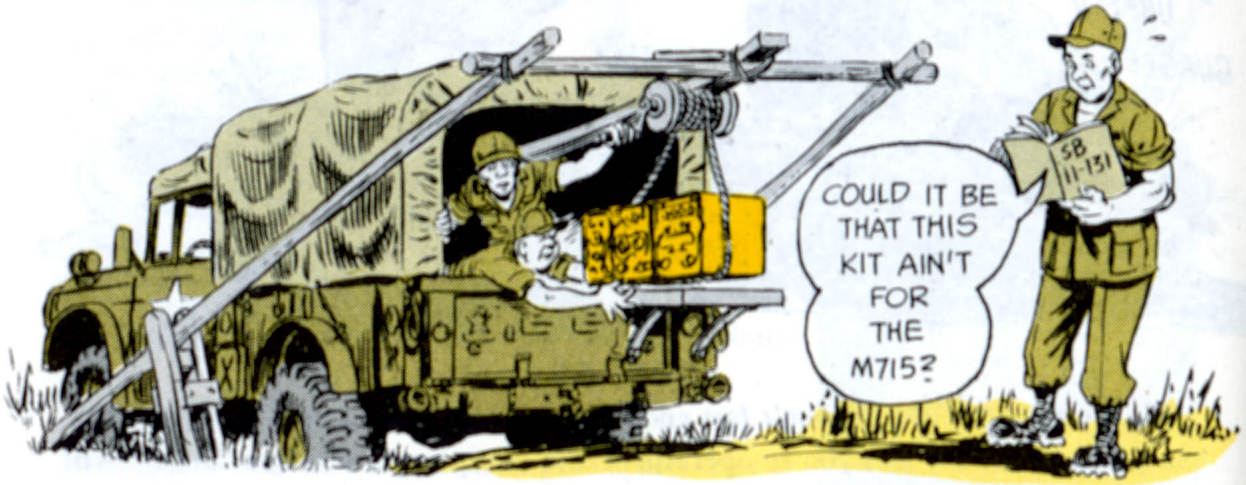
You can beat this, though—TB 750-981-3 (Jul 68) says to get a hand throttle installed when radio operation calls for a higher RPM. The hand throttle should be adjusted so you can maintain an idle of 1,000-to-1,500 RPM during radio operation.

5-QUARTER LOAD CLASS



M715 COMMO GEAR GIVING YOU...

INSTALLATION AGGRAVATION?



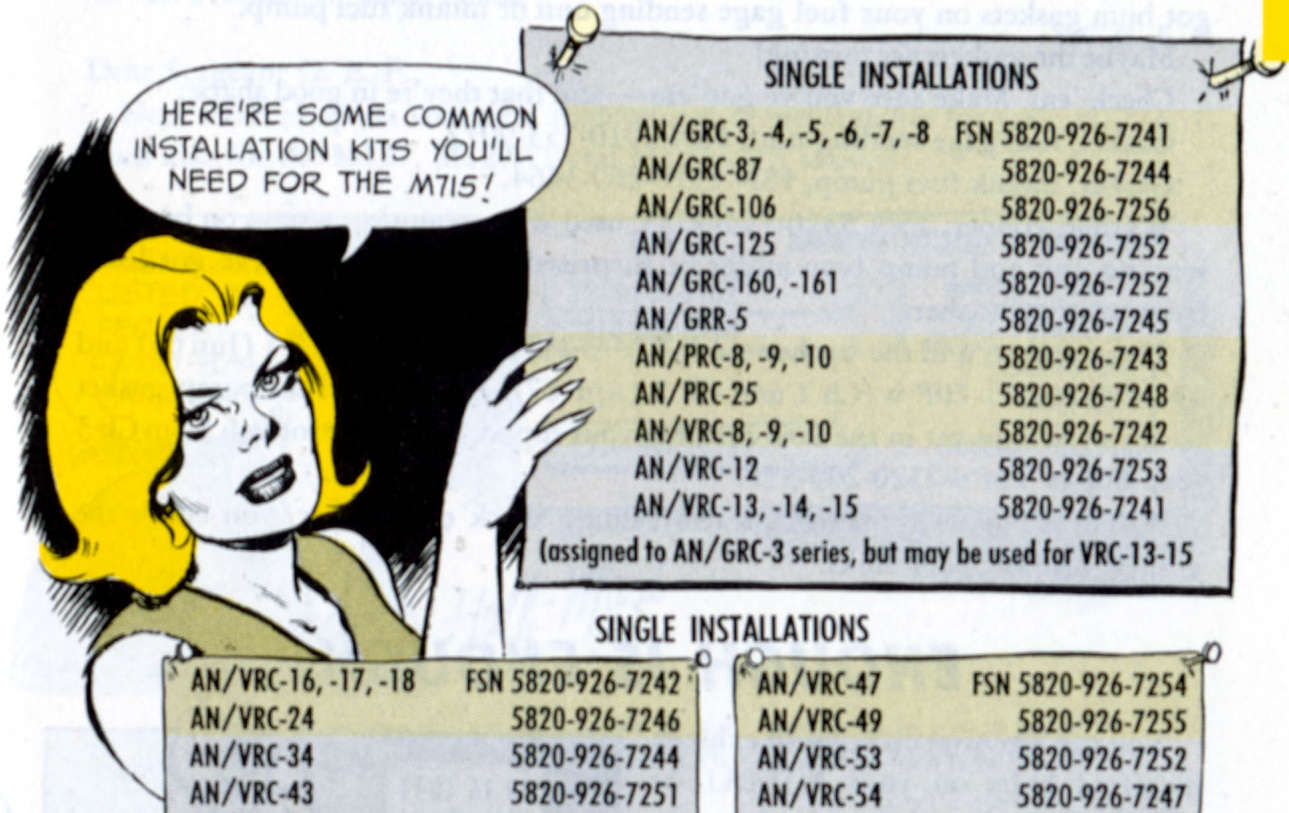
You may've already found out the hard way that commo installation kits for your M37 (G741 series) 3/4-ton cargo truck aren't right for the new M715 1-1/4-ton job.

Hang in there. With few exceptions, help is coming. A revised SB 11-131 is on the way with listings for the M715 and other new vehicles.

No kit is planned for the Angry-46, because the Standard B set is scheduled to be replaced by the AN/GRC-142. Which means you improvise, should you lose your M37 to an M715. It's a matter of lengthening tie-downs and adding a few 2 x 4's around the Angry-46 shelter.

For the present the Angry-142 and the AN/GRC-122 radio teletypewriter sets will be installed on the M715 in the S-318 Shelter, which was designed for the M37 3/4-ton. Which means you've got to improvise to install the shelter, just like with the Angry-46.

The AN/GRC-19 radio set installation kit for the M715 is available under FSN 5820-937-9847.



SINGLE INSTALLATIONS

AN/GRC-3, -4, -5, -6, -7, -8	FSN 5820-926-7241
AN/GRC-87	5820-926-7244
AN/GRC-106	5820-926-7256
AN/GRC-125	5820-926-7252
AN/GRC-160, -161	5820-926-7252
AN/GRR-5	5820-926-7245
AN/PRC-8, -9, -10	5820-926-7243
AN/PRC-25	5820-926-7248
AN/VRC-8, -9, -10	5820-926-7242
AN/VRC-12	5820-926-7253
AN/VRC-13, -14, -15	5820-926-7241

(assigned to AN/GRC-3 series, but may be used for VRC-13-15

SINGLE INSTALLATIONS

AN/VRC-16, -17, -18	FSN 5820-926-7242
AN/VRC-24	5820-926-7246
AN/VRC-34	5820-926-7244
AN/VRC-43	5820-926-7251
AN/VRC-46	5820-926-7252

AN/VRC-47	FSN 5820-926-7254
AN/VRC-49	5820-926-7255
AN/VRC-53	5820-926-7252
AN/VRC-54	5820-926-7247
AN/VRQ-1, -2, -3	5820-926-7241

COMBINATION INSTALLATIONS

Combination installations are made by requisitioning the kit for each radio set. In cases where retransmission is required with the AN/VRC-24 in combination with the GRC-125, GRC-160, -161, VRC-12, -43, -46, -47, -49, -53, -64 and -65, you need the kits for the specific sets plus Combination Kit No. 32, FSN 5820-926-7250.

Request Combination Kit No. 24 for the VRC-43. It has the same FSN as Kit 32.

Installations with the GRC-87 or VRC-34 in combination with other radio sets need specific kits for each set plus Combination Kit No. 31, FSN 5820-926-7249.

MULTIFUEL TRUCK...

FUEL TANK GASKETS

There's no mystery about fuel tank leaks on your multifuel truck — if you've got bum gaskets on your fuel gage sending unit or intank fuel pump.

Maybe the gaskets are missing!

Check 'em. Make sure you've got 'em — and that they're in good shape:

Gasket, fuel gage sending unit, FSN 2910-753-9072.

Gasket, intank fuel pump, FSN 2910-269-3464.

Washer, copper, FSN 5310-753-9073, used with mounting screws on both the sending unit and pump (you might be surprised how many trucks've got leaks from missing washers).

These gaskets and the washer are in TM 9-2320-209-20P w/Ch 1 (Jun 65) and TM 9-2320-211-20P w/Ch 1 and Ch 2 (Apr 67). Except the fuel pump gasket hasn't shown up yet in the 209-20P, but your support can get it for you from Ch 3 (Sep 66) to TM 9-2320-209-35P.

Natch, if you've got a truck-tractor, dump truck or wrecker, you check the gaskets on both fuel tanks.

ENOUGH IS ENOUGH

You can't go overboard with exhaust manifold bolts on your M151A1 or other G838-series 1/4-ton truck.

They get 12-16 lb-ft torque. Any more than that and vibration will cause 'em to shear. Then you've got a big job getting the bolt ends out of the cylinder head.

When you're tightening up, be sure you don't confuse them with some cylinder head bolts, which can take much more torque. Check page 2-109 of TM 9-2320-218-20 (Aug 68) before you tackle your next exhaust manifold job.

STAKES FOR DO-IT-YOURSELF

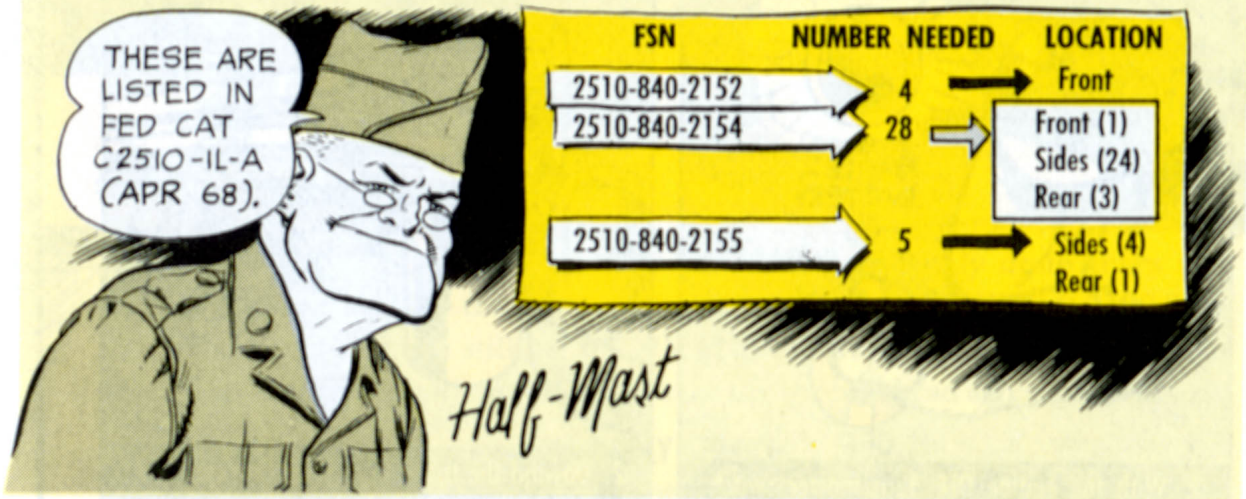
Dear Half-Mast,

PS 186 gave the FSN's for complete panel assemblies for our M127A1C 12-ton stake semitrailers. However, since we can have the panel boards locally made, can you give us the FSN's for just the metal stakes?

SSG G. E. P.

Dear Sergeant G. E. P.,

Here's the poop on complete replacement of metal stakes for your M127A1C (and also for the M127, M127A1 and M127A2C) trailers:



CHECKING LEAK CHECKERS

No, Sir-e-e-e! Definitely not.

That's the word for everybody when it comes to using compressed oxygen for testing gas tanks or radiators for leaks.

Here's why:

When oxygen comes in contact with the oil film in the radiator there'll be a messy explosion. Or, if some oxygen remains in the tank or radiator, the thing can explode when the welder goes to work on it.

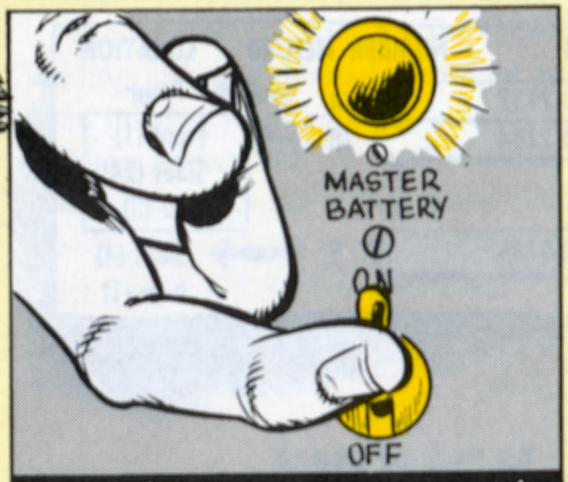
So make a note in the noggin': If you ever see anyone reach for oxygen to check leaks — because there's no air compressor handy — halt him fast. Remind him he can use the air system on the nearest truck to test for the leaks.

If you have an M60, M60A1 or M48A3 tank, an M728 CEV or an AVLB you already have (or you may get through engine retrofit) the new water-separating fuel filter. Engines with serial numbers 8950 and above already have it.

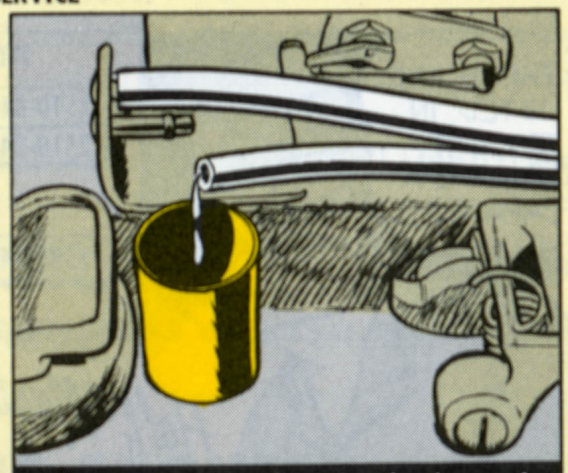
This 3-element filter takes the place of the 2-element secondary fuel filter,

NEW FUEL

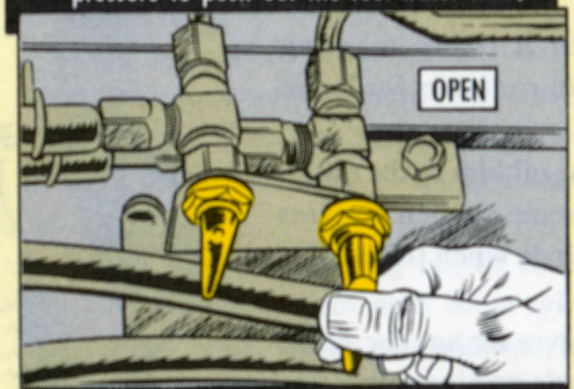
DAILY SERVICE



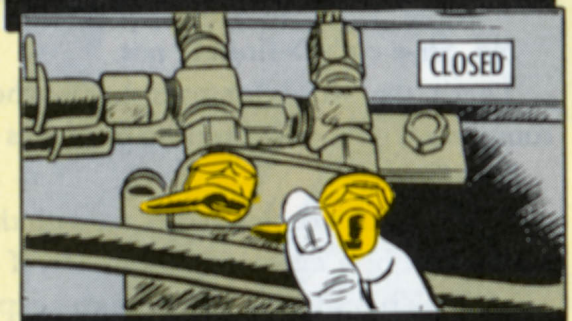
1. With the engine OFF, turn master switch ON. (You have to do this so the fuel pumps will start working because you need their pressure to push out the fuel-water mix.)



2. Unwind the tubes from their brackets and place them so the fuel-water mix drains into a container.



3. Open both valves and drain until the fuel runs clear with no water in it.



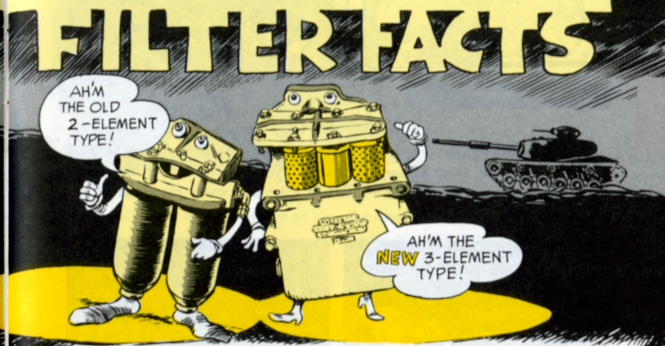
4. Shut off the valves and the master switch and put everything back in place. (Note: Make very very sure that you have the valves closed. If you forget, fuel will shower over the engine.)

If you have an M60, M60A1 or M48A3 tank, an M728 CEV or an AVLB you already have (or you may get through engine retrofit) the new water-separating fuel filter. Engines with serial numbers 8950 and above already have it.

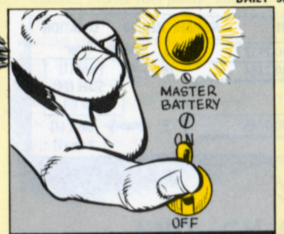
This 3-element filter takes the place of the 2-element secondary fuel filter, and here's what you need to know about it:

You drain condensate from it daily after operation at the same time you drain the primary fuel filter. The drill is the same whether you have the fuel/water separator or secondary fuel filters and it goes like this . . .

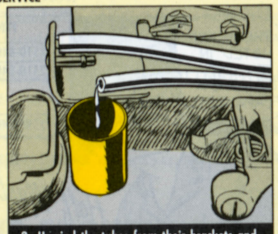
NEW FUEL FILTER FACTS



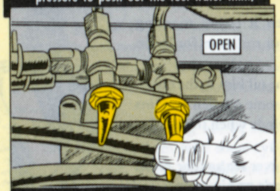
DAILY SERVICE



1. With the engine OFF, turn master switch ON. (You have to do this so the fuel pumps will start working because you need their pressure to push out the fuel-water mix.)



2. Unwind the tubes from their brackets and place them so the fuel-water mix drains into a container.



3. Open both valves and drain until the fuel runs clear with no water in it.

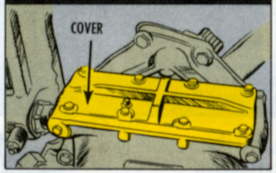
4. Shut off the valves and the master switch and put everything back in place. (Note: Make very very sure that you have the valves closed. If you forget, fuel will shower over the engine.)

In case your AVDS-1790-2 or 1790-2A lacks these handy drain tubes and valves, get your smiling tracked vehicle mechanic to apply MWO 9-2300-382-20 (Jan 68) while he can still get the MWO kits for free. With the tubes you can drain your fuel filters without having to take off the bulkhead access plates.

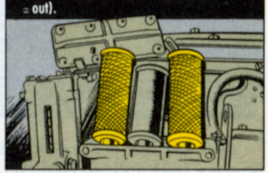
QUARTERLY SERVICE

Every quarterly service you replace the 2 water separator elements. You'll need Kit: fuel/water separator, FSN 2910-801-1152 (5702738). This kit contains 2 water separator elements (11602062) and the preformed packing for the cover (11610232).

1. Open right side grille doors and take off the water separator cover.

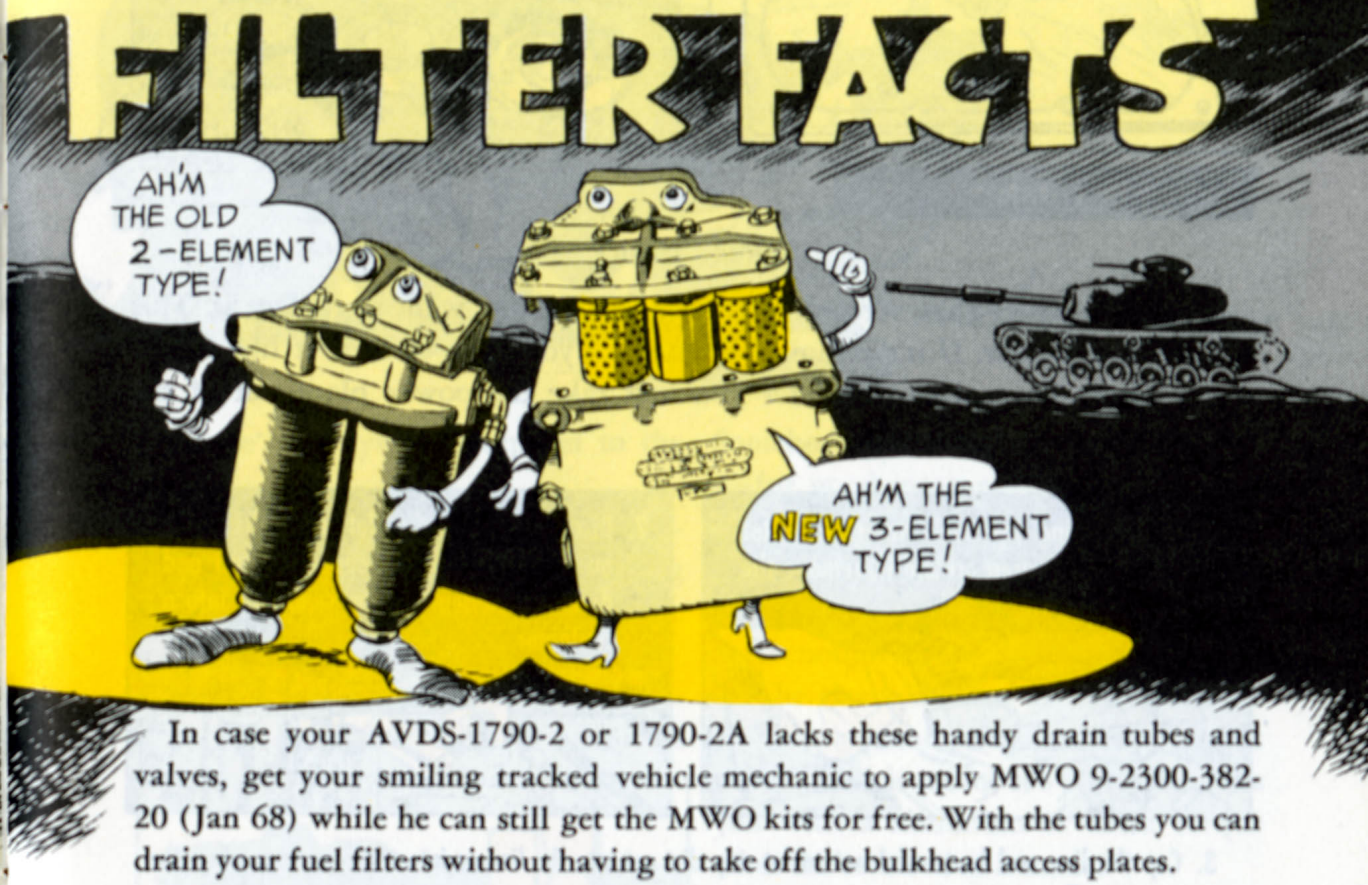


2. Replace the 2 water separator elements (it's easier if you use the handles and rotate the old elements as you pull them out).



and here's what you need to know about it:

You drain condensate from it daily after operation at the same time you drain the primary fuel filter. The drill is the same whether you have the fuel/water separator or secondary fuel filters and it goes like this . . .

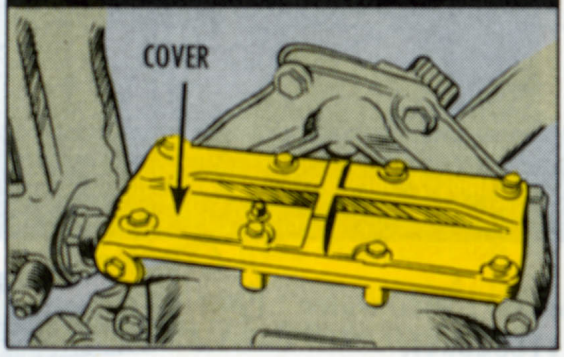


In case your AVDS-1790-2 or 1790-2A lacks these handy drain tubes and valves, get your smiling tracked vehicle mechanic to apply MWO 9-2300-382-20 (Jan 68) while he can still get the MWO kits for free. With the tubes you can drain your fuel filters without having to take off the bulkhead access plates.

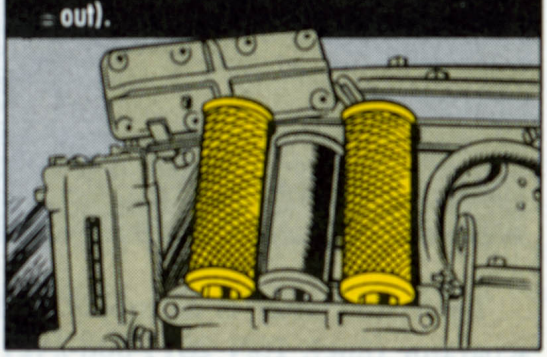
QUARTERLY SERVICE

Every quarterly service you replace the 2 water separator elements. You'll need Kit: fuel/water separator, FSN 2910-801-1152 (5702738). This kit contains 2 water separator elements (11602062) and the preformed packing for the cover (11610232).

1. Open right side grille doors and take off the water separator cover.

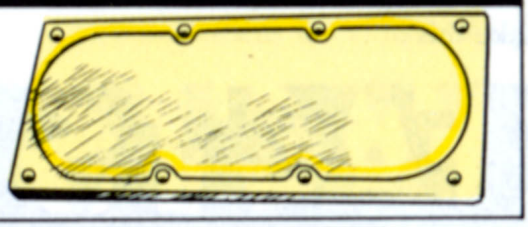


2. Replace the 2 water separator elements (it's easier if you use the handles and rotate the old elements as you pull them out).



PS MORE

3. Check the preformed packing in cover. If it's in good shape, leave it alone. If it's damaged or has lost its snap, replace it.



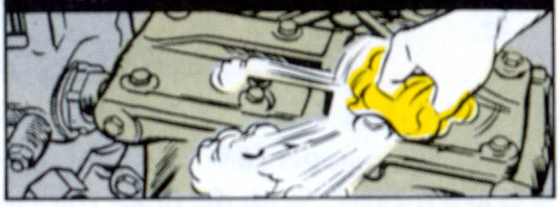
4. Fill the separator with fuel to within one half-inch of the top if it's below that level. (You do this by putting the master switch ON which starts the fuel pumps.)

5. Screw the cover back on again.

ANNUAL SERVICE

Leave the center (fine screen) filter alone unless you want to replace it. This is done once a year. If it's removed by mistake you have to treat it like a new center filter. To replace this filter you first take the power plant out of the vehicle and then you do this . . .

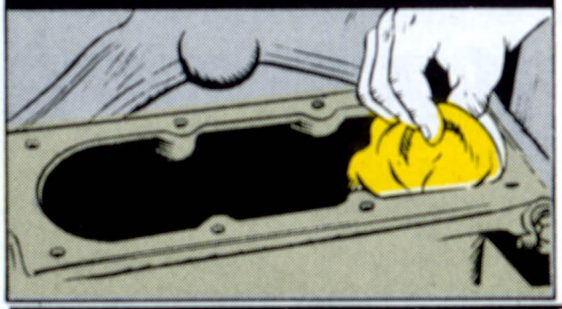
1. After cleaning the fuel/water separator cover and the area around it, remove the cover.



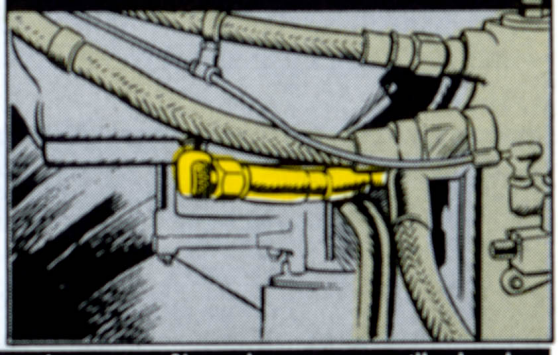
2. Disconnect the fuel outlet line at the elbow on the bottom of the separator unit and drain the contents of the separator into a container.

3. Cap the line and be careful not to let any dirt get into the line or into the separator when the cover is off.

4. Clean the inside of the separator and install new elements.



5. Reconnect the fuel line.

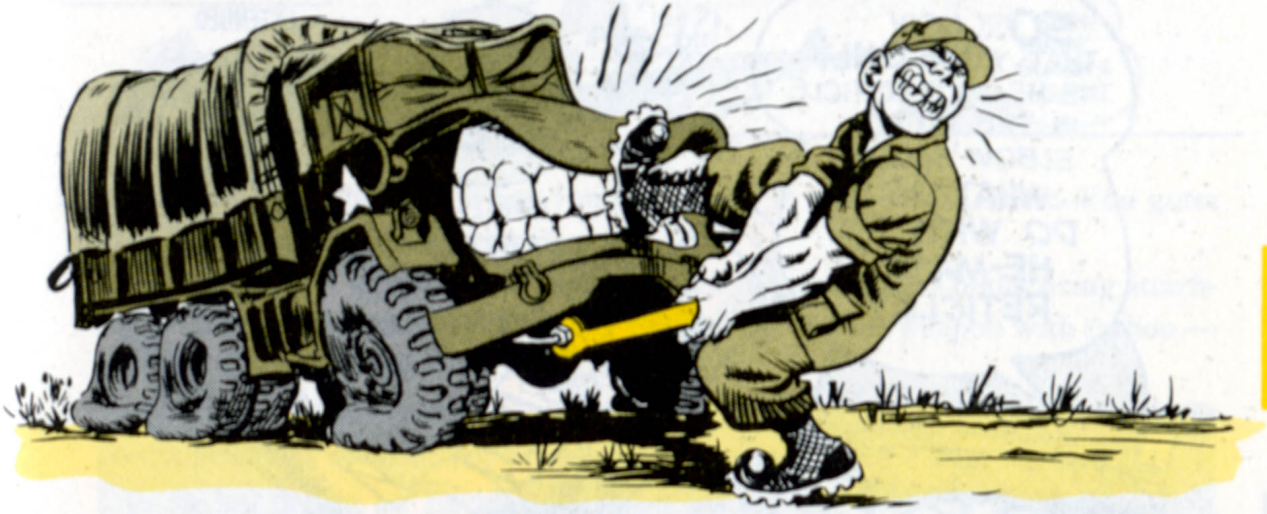


6. During the annual service when you replace the center filter element you will also be replacing the 2 water separator elements so do steps 2. through 5. the way it said under QUARTERLY SERVICE.

The center filter is in supply as Element: fuel/water separator (fine), FSN 2815-808-2421 (11602061).

HYDRAULIC FITTINGS...

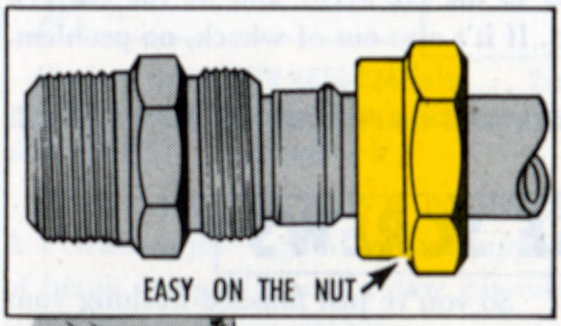
PLEASE DON'T SCREW 'EM UP!

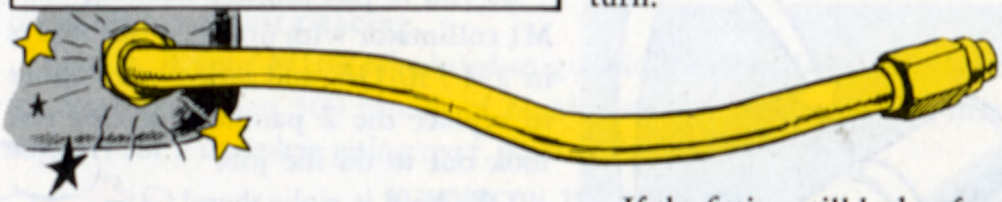


There's always an exception to the rule!

When you're pulling your PM services, you usually draw up on holding nuts, bolts, fasteners, etc., — just to be sure they're tight.

With the sleeve-type hydraulic fittings that connect up the hydraulic lines in your combat vehicles, drawing up on **that** nut could be your undoing! So hold one, Podner!





Most of the leaks that develop in hydraulic lines can be traced right back to overtightening of these connections. Somebody gives 'em just one more twist — for good measure — and you've got a leaker.

The rule of thumb for hydraulic fittings is this: If they're not leaking, leave well enough alone!

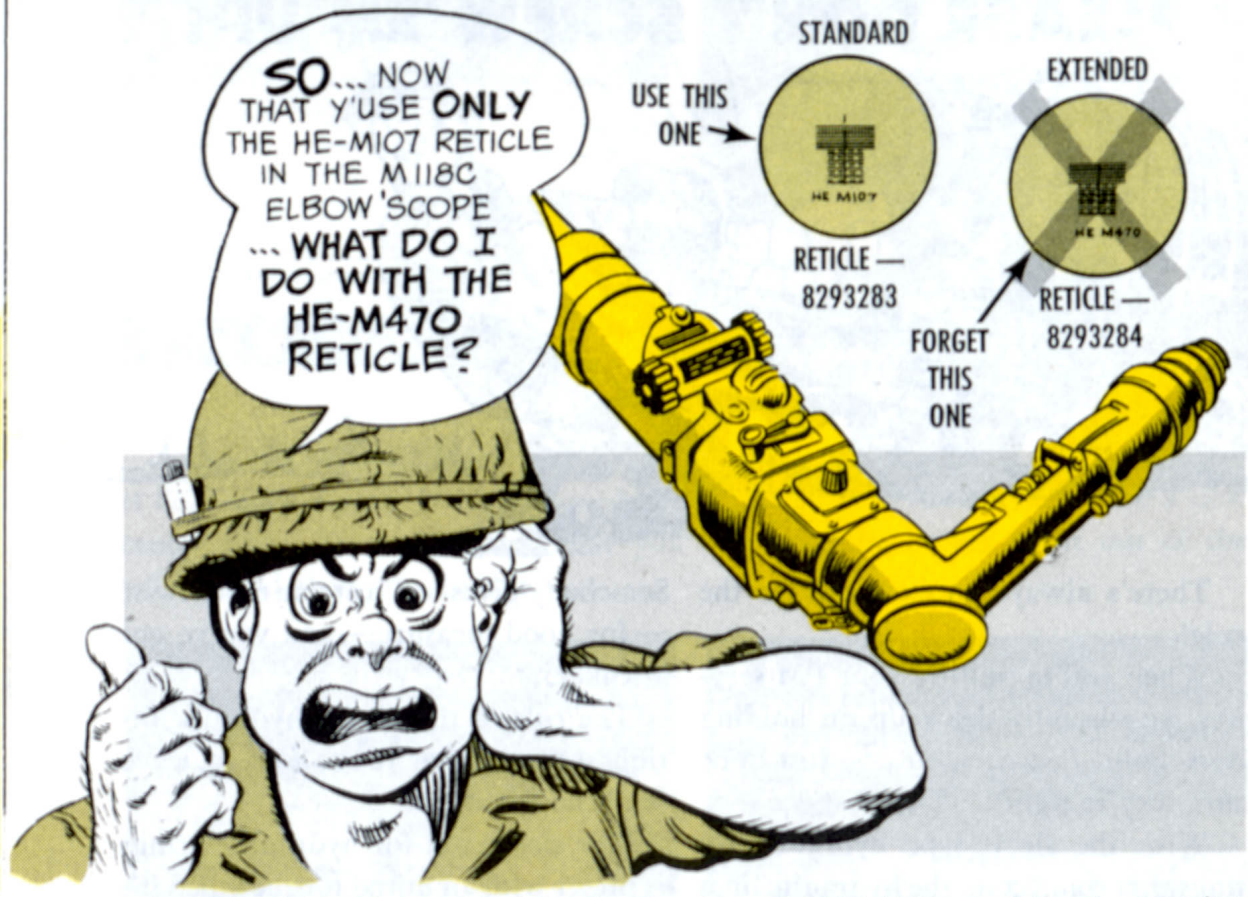
The sleeve nut for hydraulic fittings is preset with an initial torque when it's made. Which means it's ready to do its job with a minimum of extra torque after the connection is made.

You start the nut onto the fitting and turn till you feel a rise in torque — from this point, give the nut just 1/6 more turn (no less) and no more than a 1/3 turn.

If the fitting still leaks after applying the 1/3 turn, give it a wee bit more turn.

If you go past the 1/3 turn just a bit too far, the sleeve'll keep biting into the tube and rupture 'er innards. A little vibration and you've gotta leaker on your hands.

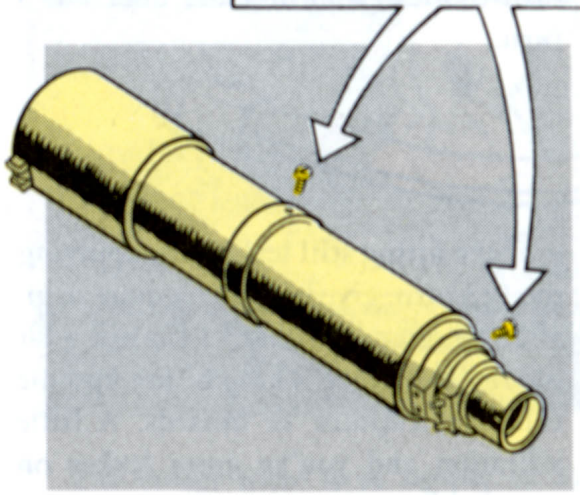
M109 HOWITZER HAPPENING



Nothin'. Turn the reticle selection lever to the HE-M107 and let the HE-470 stay there, out of sight and out of mind. If it's also out of whack, no problem. You don't need to have it replaced.

New M118C's will have one blank reticle and that's what old M118C's will get at rebuild.

SEAL THOSE SCREWS



So you've just finished flushing your M1 collimator with nitrogen like it says in TM 750-116, and now you're about to replace the 2 pan-head screws you took out to do the job.

OK, hold it right there!

Be mighty sure you put a dab of sealing compound (MIL-S-11031 . . . FSN 8030-275-8110) on the threads of both screws before you work 'em in. Otherwise, moisture could sneak right back in there and fog up your gem again.

M16 BLANKSMANSHIP . . .

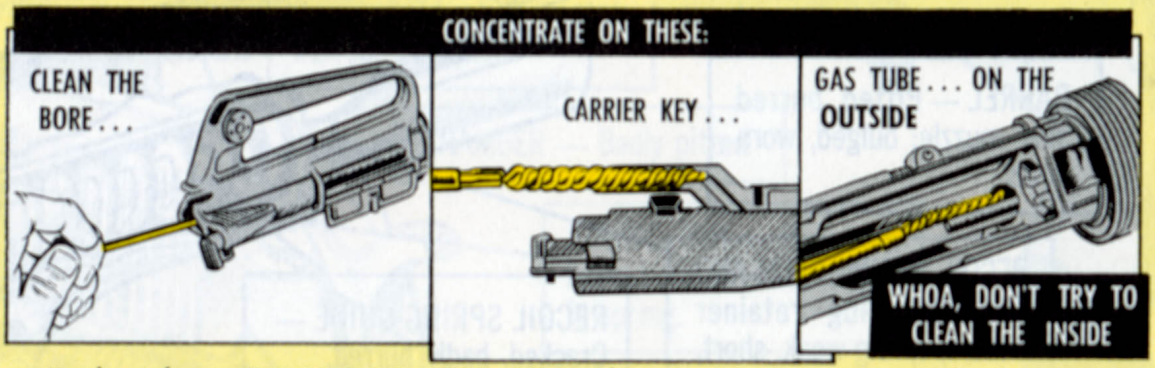
CLOBBER THAT CARBON

No two ways about it. When you fire blanks in your M16A1 rifle. You gotta knuckle down for real on your cleaning.

Reason: M200 blank ammo fired through the new XM15 blank firing attachment (FSN 1005-921-5481) blankets the innards of your weapon with carbon—especially the bore, gas tube and carrier key.

And, if you don't get this carbon out after every firing session, your M16's gonna poop out on you. So, here's what you do:

Do the best cleaning job you know how before and especially after firing blanks. Follow Table 3-1 in your TM 9-1005-249-12 (Aug 68).



Use bore cleaner (FSN 6850-224-6656 . . . 2-oz plastic bottle) when you get to the cleaning right after firing. But, if the carbon gets a chance to "set," get your armorer to help you use P-C-111 (FSN 6850-965-2332 . . . 5-gal pail) on it.

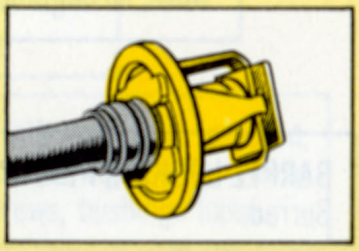
Next, if your rifle starts to get sluggish—even after you've given it your best A-1 cleaning job—get it to your support outfit pronto. After about 2,000 rounds of blank firing it'll need a new gas tube and it'll have to have its carrier key taken off for expert cleaning.

Finally, if your M16's scheduled to go with you to where the action is—and it's fired more than 500 rounds of blank ammo—make sure you first get it to support for a complete going over. Real important!

A WORD ON THE XM15 BFA

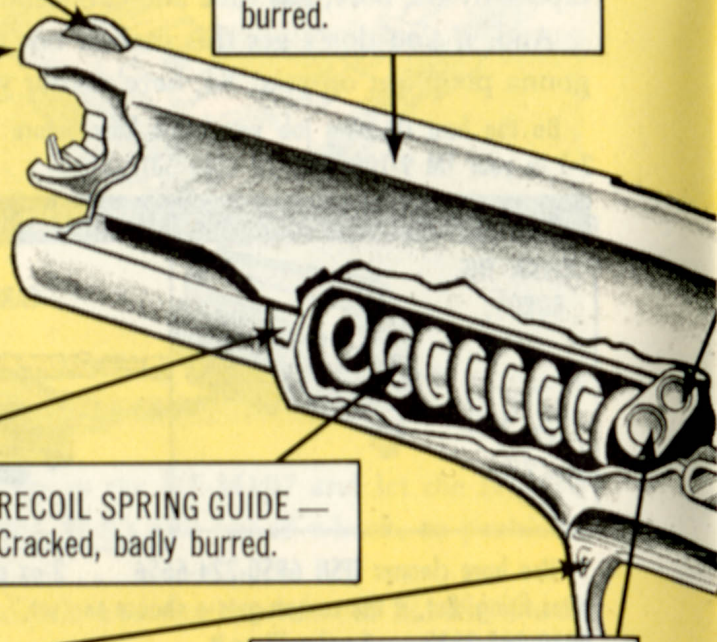
No sweat putting the blank firing attachment on. Hold it so that its flanges line up with the annular grooves on the flash suppressor. Then force the ring over these grooves and snap the lock. To take it off, release the lock on one side at a time.

But easy all the way, both ways. Right?



SHARP AS A

Sure you are, but how sure are you about that .45-cal spitfire in your holster? This chart will show you right off if your shooter's up to snuff. It sorta tags along with the scoop in TM 9-1005-211-12 (16 Sep 68). If your piece has any of these defects, get it to your armorer for a working over.



FRONT SIGHT — Misalined, loose, burred, not square.

SLIDE—Cracked, especially at ejector port; interior grooves and ejector port burred.

BARREL BEARING — Cracked, bearing lug busted, burred, badly worn.

BARREL — Pitted, burred near muzzle; bulged, worn lands.

RECOIL SPRING PLUG AND SPRING — Plug retainer busted; spring weak, short, bent, not latched, assembled wrong to guide.

RECOIL SPRING GUIDE — Cracked, badly burred.

SLIDE STOP PIN — Worn, bent, burred.

SAFETY PLUNGER — Tube loose, spring weak, slide stop burred.

MAGAZINE CATCH — Damaged, won't work.

RECEIVER — Cracked; slide mating grooves worn, burred; slide stop notch badly worn, oversized.

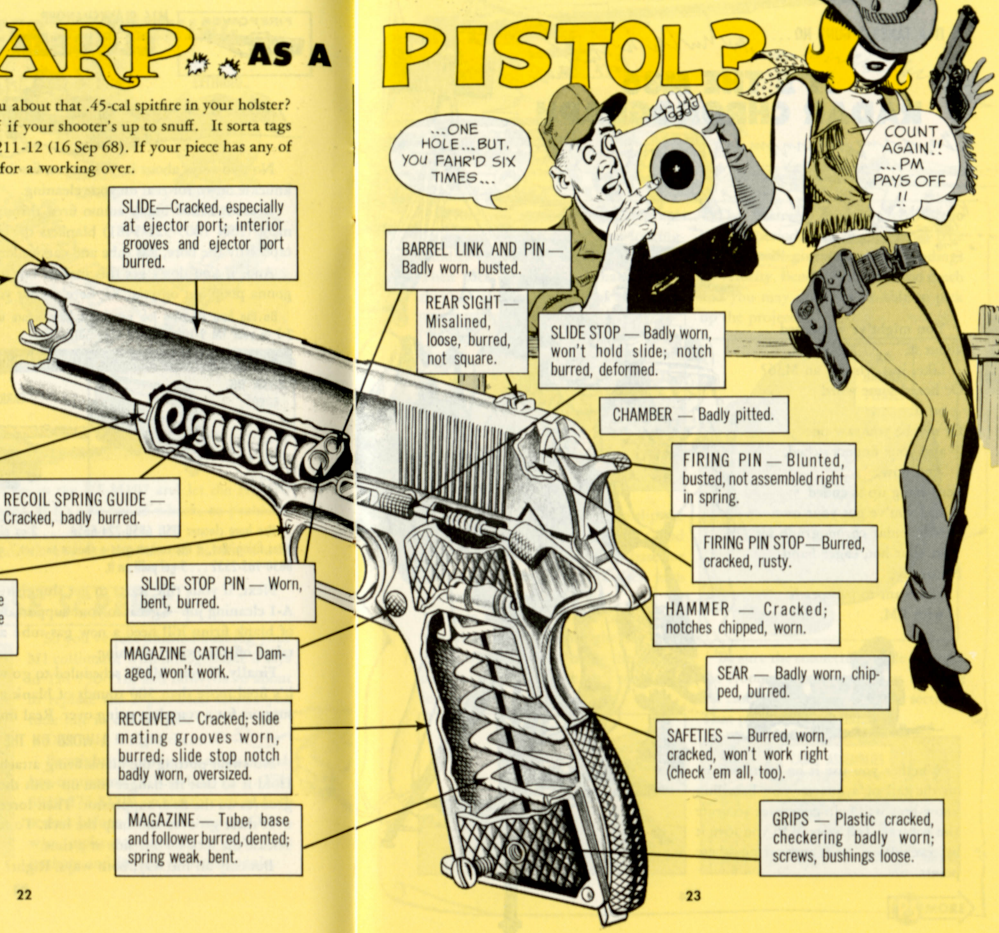
EXTRACTOR — Badly worn, weak; lip deformed, broken.

MAGAZINE — Tube, base and follower burred, dented; spring weak, bent.

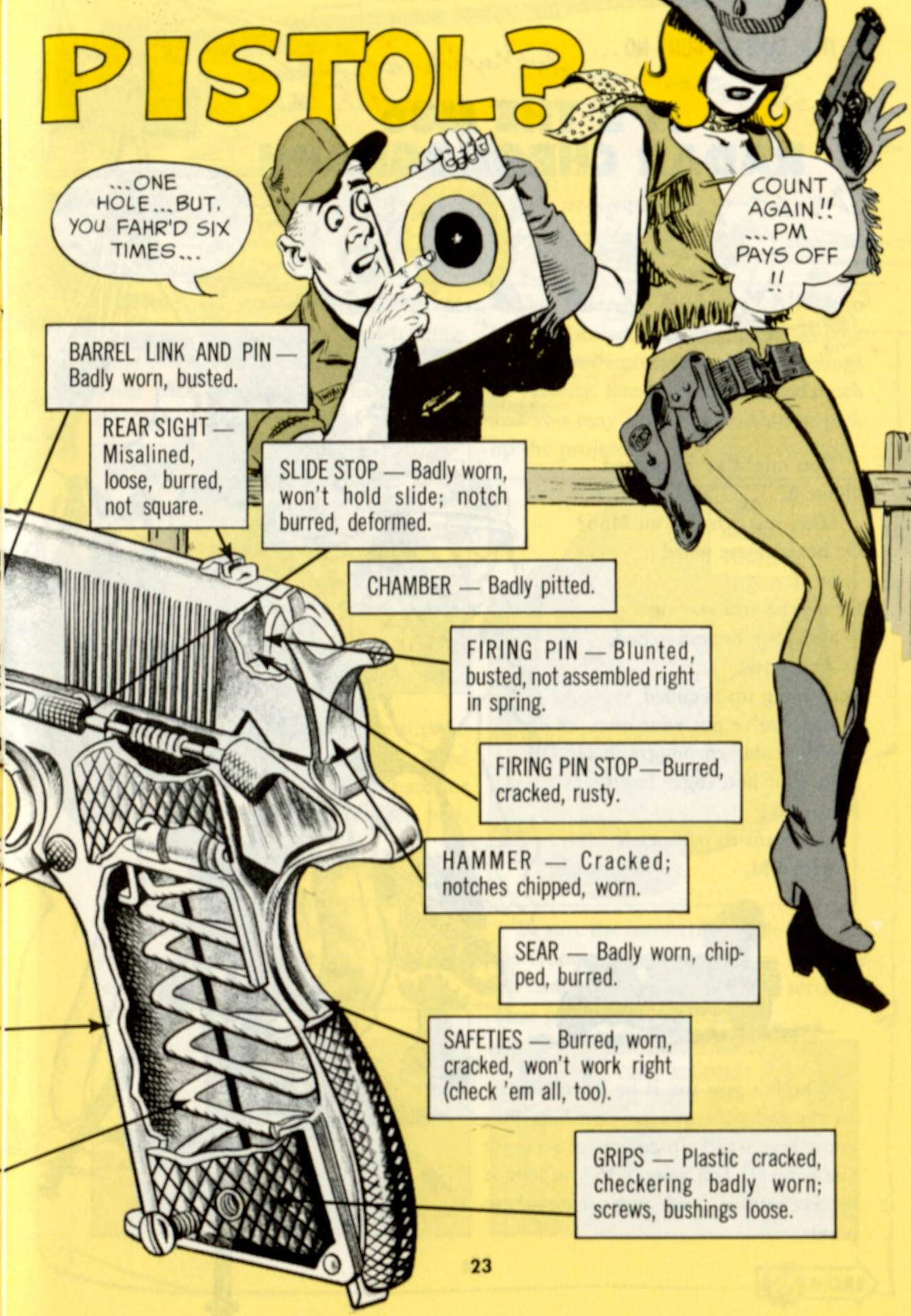
BARREL LOCKING RIBS — Burred.

SHARP AS A PISTOL?

Sure you are, but how sure are you about that .45-cal spitfire in your holster? This chart will show you right off if your shooter's up to snuff. It sorta tags along with the scoop in TM 9-1005-211-12 (16 Sep 68). If your piece has any of these defects, get it to your armorer for a working over.



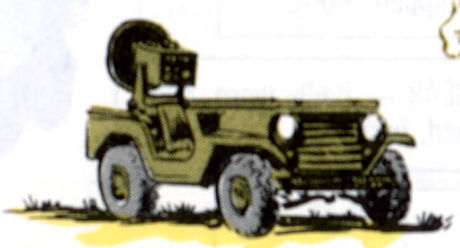
PISTOL?


...ONE HOLE...BUT, YOU FAHR'D SIX TIMES...
COUNT AGAIN!! ...PM PAYS OFF !!
BARREL LINK AND PIN — Badly worn, busted.
REAR SIGHT — Misalined, loose, burred, not square.
SLIDE STOP — Badly worn, won't hold slide; notch burred, deformed.
CHAMBER — Badly pitted.
FIRING PIN — Blunted, busted, not assembled right in spring.
FIRING PIN STOP—Burred, cracked, rusty.
HAMMER — Cracked; notches chipped, worn.
SEAR — Badly worn, chipped, burred.
SAFETIES — Burred, worn, cracked, won't work right (check 'em all, too).
GRIPS — Plastic cracked, checkering badly worn; screws, bushings loose.

IS IT A TANK? A GUN? NO . . .

IT'S THE M36 RADAR CHRONOGRAPH

You might've wondered
about it.
Like, just what is an M36?
Or heard some word
on it.
Or maybe you saw one
and your fingers itched.
And now,
your hang up is ended
and you've got your own
M36 radar chronograph set
in your hot, eager hands.
Naturally,
you want to pamper it
with PM.



Whether you use it on its tripod or on the tail of a quarter-ton, handling know-how will help guarantee accurate aim control. Tell your M36 you love it by eyeballing and supporting these points.

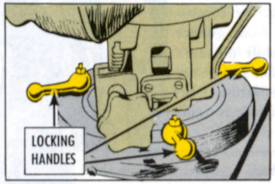
IS IT A TANK? A GUN? NO . . .

IT'S THE M36 RADAR CHRONOGRAPH

You might've wondered
about it.
Like, just what is an M36?
Or heard some word
on it.
Or maybe you saw one
and your fingers itched.
And now,
your hang up is ended
and you've got your own
M36 radar chronograph set
in your hot, eager hands.
Naturally,
you want to pamper it
with PM.

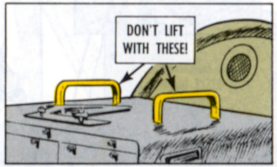
Whether you use it on its tripod or on the tail of a quarter-ton, handling know-how will help guarantee accurate aim control. Tell your M36 you love it by eyeballing and supporting these points.

Before you mount the chronograph on its tripod turn the 3 base-locking-handles clockwise until they're secure. Then back 'em off a full half-turn so they're completely clear of the recess

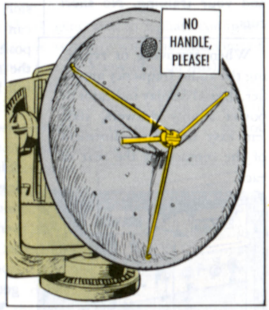


on the base. This allows you to slip the chronograph on the base easily and without bunging up either base or chronograph. Lock the handles with another clockwise turn.

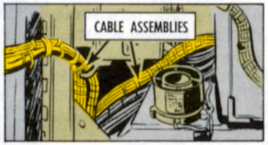
Those handles atop the case are for adjusting and elevating the set only. Using them to lift or move the set can only lead to grief. The set's too heavy for 'em.



The centered antenna feed is no handle, period. Any change from true position will give you wrong readings on velocity. Bend it just a hair too much and you may not even be able to pick up the projectile.

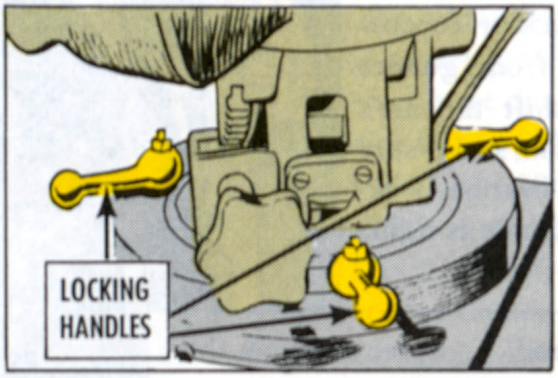


Be sure the connecting cable between the front and rear assemblies is inside the case when you close the 2 sections. That prevents cable damage.



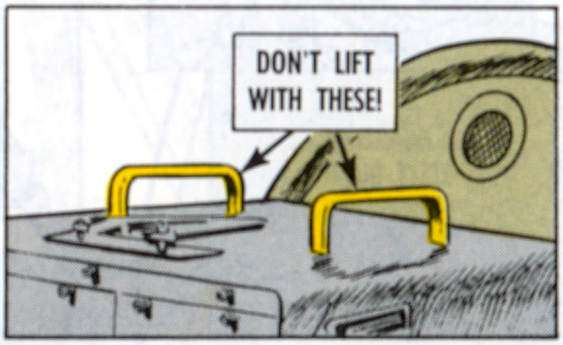
PS MORE

Before you mount the chronograph on its tripod turn the 3 base-locking-handles clockwise until they're secure. Then back 'em off a full half-turn so they're completely clear of the recess

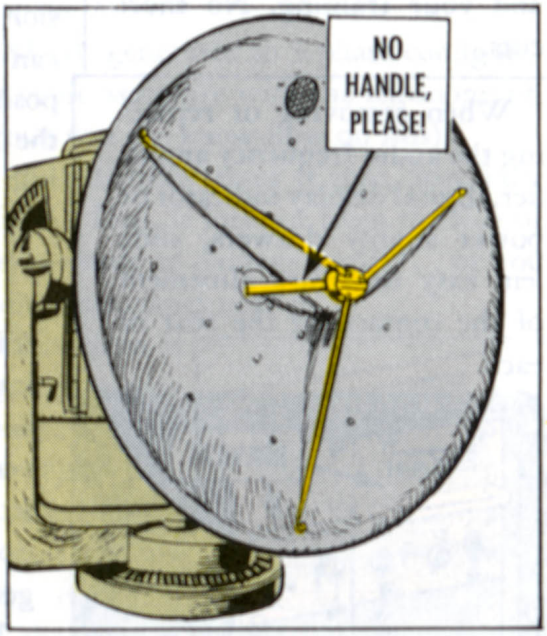


on the base. This allows you to slip the chronograph on the base easily and without bunging up either base or chronograph. Lock the handles with another clockwise turn.

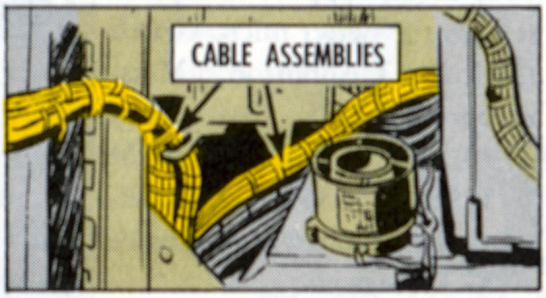
Those handles atop the case are for adjusting and elevating the set only. Using them to lift or move the set can only lead to grief. The set's too heavy for 'em.



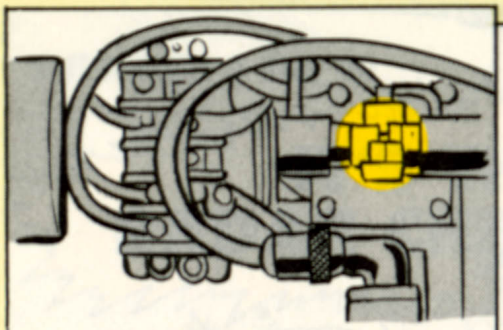
The centered antenna feed is no handle, period. Any change from true position will give you wrong readings on velocity. Bend it just a hair too much and you may not even be able to pick up the projectile.



Be sure the connecting cable between the front and rear assemblies is inside the case when you close the 2 sections. That prevents cable damage.



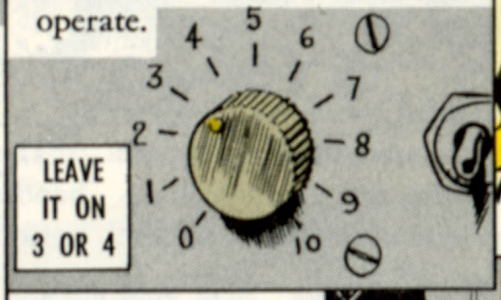
P.S MORE



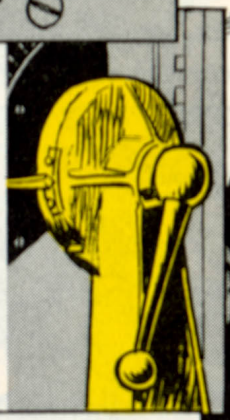
Play it cool and careful around the klystron, AFC, voltage multiplier and power supply.

Especially dangerous are terminal boards TB1 and TB2. You're messing with up to 1,000 volts. Stick with the TM and your training. No short cuts.

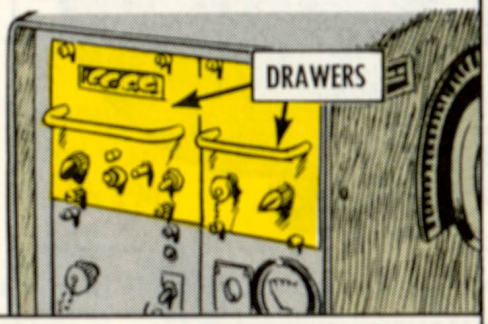
While you're "on the button" steer an eyeball to the mike sensitivity control button. Best position for this dude is "3" or "4" on the scale. Leave it on "0" and your set won't operate.



Shock or concussion from gunfire can shift the set's position, so be sure the elevation locking handle is tight.

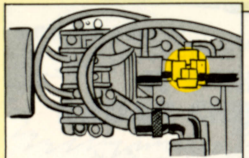


When removing or replacing the audio frequency amplifier, digital display indicator or power supply drawers, slide 'em easy to assure alinement of the contacts at the rear of each.



And . . . never overlook the travel lock pin prior to moving the M36 from one spot to another. The pin in place prevents the naturally off balance set from dipping out of position, falling and otherwise getting damaged.

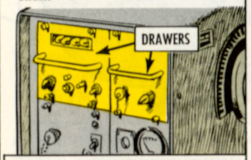
If you've still got a pesky, spring tension reset button, get your direct support to replace it with the better micro-switch (Switch, Pushbutton, Moistureproof, FSN 5930-501-1749). It's on page 40 of TM 9-1290-325-35P and eliminates the problem of broken or weak springs.



Play it cool and careful around the klystron, AFC, voltage multiplier and power supply.

Especially dangerous are terminal boards TB1 and TB2. You're messing with up to 1,000 volts. Stick with the TM and your training. No short cuts.

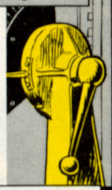
When removing or replacing the audio frequency amplifier, digital display indicator or power supply drawers, slide 'em easy to assure alinement of the contacts at the rear of each.



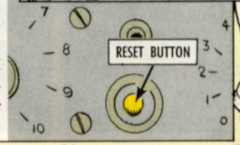
If you've still got a pesky, spring tension reset button, get your direct support to replace it with the better micro-switch (Switch, Pushbutton, Moistureproof, FSN 5930-501-1749). It's on page 40 of TM 9-1290-325-35P and eliminates the problem of broken or weak springs.

While you're "on the button" steer an eyeball to the mike sensitivity control button. Best position for this dude is "3" or "4" on the scale. Leave it on "0" and your set won't operate.

Shock or concussion from gunfire can shift the set's position, so be sure the elevation locking handle is tight.



And . . . never overlook the travel lock pin prior to moving the M36 from one spot to another. The pin in place prevents the naturally off balance set from dipping out of position, falling and otherwise getting damaged.

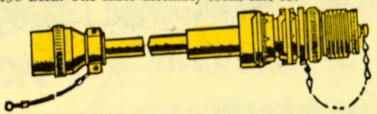


YOU CAN GET THE WARNING DECAL WITH FSN 1290-179-5284.

STICK DECAL BEHIND DISH

Big caution: your set uses 400-cycle current. Be sure your power source is 400-cycle before using it . . . or prepare for big problems.

Which brings up an all-new cable, Cable Assembly, Special Purpose, FSN 1290-167-8311, recently added to the M36 BIIL. The cable assembly looks like so:

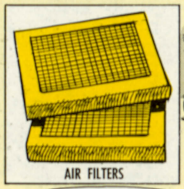


When your HF-0.5 MD generator set is not available, the cable assembly allows you to use the standard 3-KW, 400-cycle spare FADAC generator. The assembly is connected between the FADAC generator adapter (FSN 1220-799-8913) and the power cable of the M36.

Be sure to set the FADAC generator to 3-phase configuration prior to using the cable assembly with the chronograph (TM 5-6115-211-10 gives you the know-how on this).

A cable to avoid is the reliability rater (Cable, Spec Purpose, FSN 1290-850-6006). Like, it juts out from the side of the case sore-thumb style, ready to damage itself . . . or you . . . by snagging anything that comes near it.

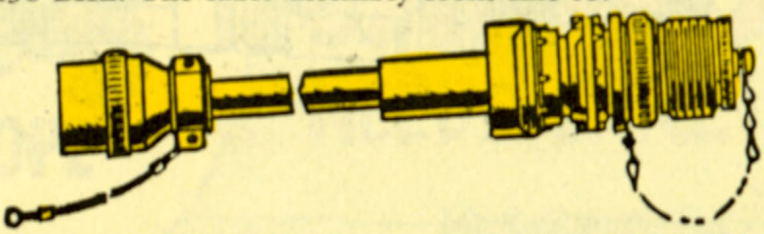
Keeping your air filters clean is a matter of common sense **plus** paying heed to the poop on page 47 of TM 9-1290-325-12/1 (Jan 68). Climate, the situation, insects, dust, silt, etc. can clog the filter and demand sometimes daily cleaning. Ignore the filters and the guts of your M36'll heat up or otherwise get damaged.



Finally, be sure there're no metal objects in the path of the antenna while you're checking or using the set. This is especially important during checks, when the antenna normally wouldn't be elevated. Metal in the way gives you false readings.

Big caution: your set uses 400-cycle current. Be sure your power source is 400-cycle before using it . . . or prepare for big problems.

Which brings up an all-new cable, Cable Assembly, Special Purpose, FSN 1290-167-8311, recently added to the M36 BIIL. The cable assembly looks like so:

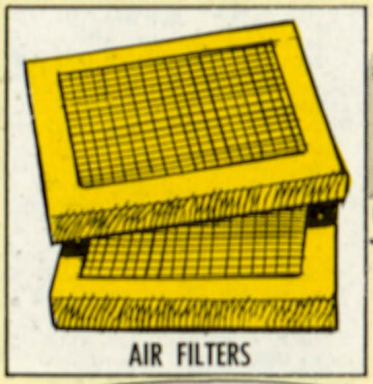


When your HF-0.5 MD generator set is not available, the cable assembly allows you to use the standard 3-KW, 400-cycle spare FADAC generator. The assembly is connected between the FADAC generator adapter (FSN 1220-799-8913) and the power cable of the M36.

Be sure to set the FADAC generator to 3-phase configuration prior to using the cable assembly with the chronograph (TM 5-6115-211-10 gives you the know-how on this).

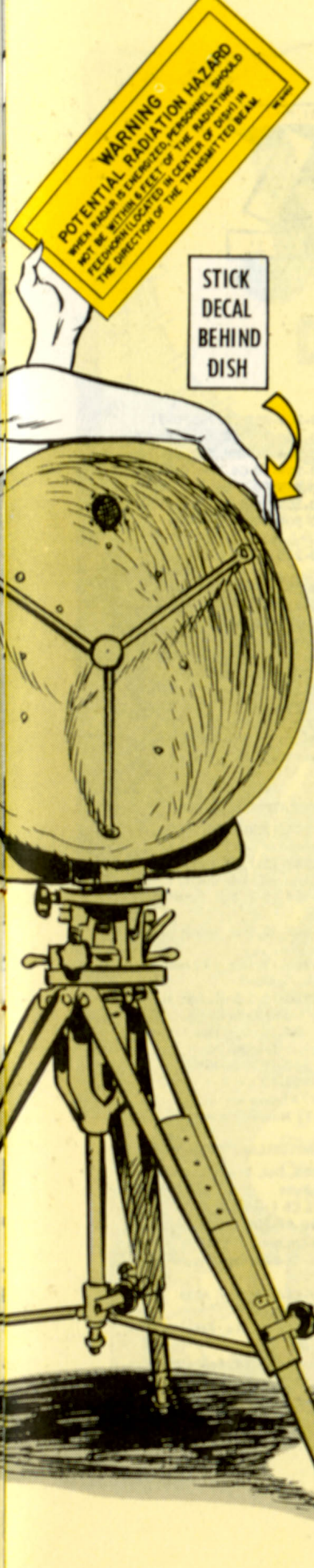
A cable to avoid is the reliability rater (Cable, Spec Purpose, FSN 1290-850-6006). Like, it juts out from the side of the case sore-thumb style, ready to damage itself . . . or you . . . by snagging anything that comes near it.

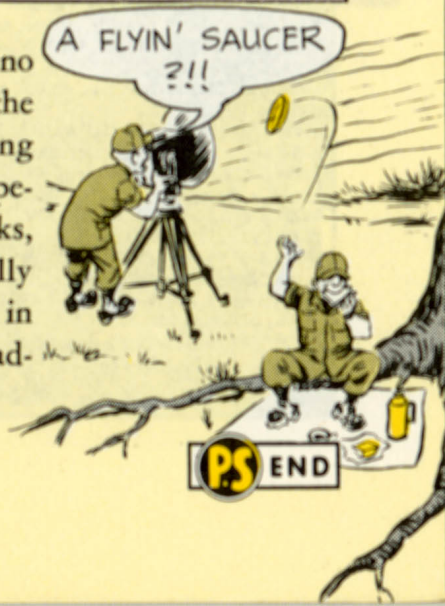
Keeping your air filters clean is a matter of common sense **plus** paying heed to the poop on page 47 of TM 9-1290-325-12/1 (Jan 68). Climate, the situation, insects, dust, silt, etc. can clog the filter and demand sometimes daily cleaning. Ignore the filters and the guts of your M36'll heat up or otherwise get damaged.

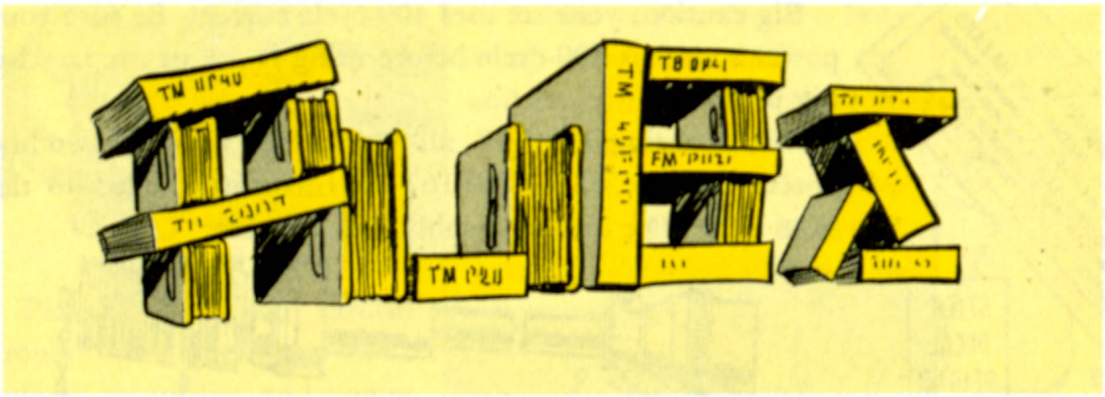


AIR FILTERS

Finally, be sure there're no metal objects in the path of the antenna while you're checking or using the set. This is especially important during checks, when the antenna normally wouldn't be elevated. Metal in the way gives you false readings.







This is a selected list of recent pubs of interest to organizational maintenance personnel. The list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (May 68), and Ch 3 (Nov 68), TM's, TB's, etc.; DA Pam 310-6 (Jul 68), and Ch 2 (Jan 69), SC's and SM's; DA Pam 310-7 (Dec 68), MWO's.

TECHNICAL MANUALS

TM 1-10H-23C-24P C3, Feb, OH-23
TM 1-225, Dec, Navigation
TM 3-1040-209-12 C2, Jan, M10-8 Main Armament Mech Flame Thrower
TM 3-4240-202-14, Nov, CBR Mask Field ABC-M17 and Accessories
TM 5-2410-209-20P C2, Jan, Medium Full Tracked Tractors
TM 5-3805-237-12 C2, Jan, Earth Moving Equip Graders
TM 5-3805-238-13, Oct, 2 Wheel Trans Dolly for Use With 18 Cu Yd Cap Hydraulic Operated Scraper
TM 5-3805-239-20P, Dec, Earth Moving Equip Loaders
TM 5-3820-210-20/2 C2, Jan, Barber-Greene 410-3G Screening Unit Aggregate
TM 5-3895-272-20P, Dec, 10-20 HP MS GED Gas Eng
TM 5-3895-288-20P, Dec, Model KA-60 Feeder Aggregate
TM 5-3895-320-20P, Dec, DED Mdl KA-60 Aggregate Dryer
TM 5-3895-333-15, Dec, Pile Driving Hammers
TM 5-4120-229-13, Nov, 9,000 BTU Floor Mtd Air Conditioners
TM 5-4310-276-25P, Dec, 5 CFM Air Compressors
TM 5-4320-225-20P, Dec, Petrol Centrif Pumps
TM 5-4320-252-14, Dec, Fresh Water Centrif Pumps
TM 5-4520-209-24P, Dec, 60,000 BTU Space Heaters
TM 5-4940-200-25P, Dec, Shop Equip Set No. 3 Truck Mtd Contact Maint
TM 5-6115-275-25P, Dec, 10 KW 60 Cyc Gen Sets
TM 5-6115-282-20P, Nov, 3 KW 60 Cyc Eng Drvn Gen Sets
TM 5-6115-321-15, Nov, 30 KW 60 Cyc Eng Drvn Gen Sets
TM 5-6115-329-25P, Dec, 0.5 KW DC Gas Drvn Gen Set
TM 5-6115-345-12 C1, Jan, 15 KW 60 Cyc Eng Drvn Gen Sets
TM 5-6115-407-15, Jan, 150 KW & Up Eng Drvn Gen Sets
TM 5-6115-434-12, Dec, 100 KW 60 Cyc Gen Sets
TM 5-6665-202-25P, Dec, Land Mine Detecting
TM 5-6675-210-20P, Dec, Surveying Equip Telescope
TM 9-1010-207-12 C1, Dec, M5 40 MM GL
TM 9-1400-425-20P, Jan, Redeye
TM 9-2300-257-10, Dec, Operator's Manual for M577A1 Carriers, M132A1 Flame Thrower, M106A1, M125A1 Mortar, M113A1 Personnel and XM741 20 MM AAA Gun Chassis (XM163 Weapons Sys) (Vulcan)
TM 9-2320-230-ESC, Dec, M656 5-Ton Cargo Truck, XM757 Tractor Trk, XM791 Expans Van Trk
TM 9-2320-244-20, Oct, M715 1¼-Ton Cargo Truck and M725 Ambulance Truck
TM 9-2330-286-14, Nov, M131A3C Fuel Serv Semitrailer Tank
TM 9-2350-215-20 C4, Dec, M60, M60A1 Tanks
TM 9-2350-215-ESC C2, Dec, M60, M60A1 Tanks
TM 9-2350-217-20 C4, Jan, M108 and M109 Howitzers
TM 9-2350-222-10 C6, Oct, M728 Combat Engineer Vehicle
TM 9-2350-223-20 C5, Jan, M48A3 Tank
TM 9-2350-300-20P, Nov, XM163 SP 20 MM Antiaircraft Arty Gun
TM 9-6115-202-24P, Dec, 577, 577A1 Carriers
TM 9-7022-C19, Jan, M48A2C Combat Tank
TM 10-500, Nov, Airdrop of Supplies & Equip
TM 10-500-10, Nov, Airdrop of Supplies & Equip Rigging ¼-Ton Utility Trucks
TM 10-500-13 C3, Jan, Airdrop: M101 ¾-Ton Cargo Trailer
TM 10-5410-221-24, Nov, Rigid Construction W/Air-Lock Expandable Shelter Tents
TM 11-1520-210-20 C1, Dec, UH-1D
TM 11-5820-601-12, Dec, AN/FRR-79 Radio Receiving Set
TM 11-6125-239-20-1, Dec, PU-544A/A Generator
TM 55-412, Nov, Aircraft Instruments
TM 55-1510-201-20, Jan, U-8
TM 55-1510-202-10, Dec, O-1
TM 55-1510-209-20P C2, Feb, U-21
TM 55-1520-206-20PMD, Dec, OH-23
TM 55-1520-206-20PMP, Dec, OH-23
TM 55-1520-209-10 C4, Dec, CH-47
TM 55-1520-209-20-1 C6, Dec, CH-47
TM 55-1520-209-20-2 C4, Dec, CH-47
TM 55-1520-209-20P-1 C14, Feb, CH47
TM 55-1520-210-20P-1 C2, Feb, UH-1 Series
TM 55-1520-214-CL C1, Jan, OH-6
TM 55-1520-217-20P-1, Dec, CH-54
TM 55-1520-219-20PMD, Dec, UH-1A & B
TM 55-1520-219-29PMI & -20PMP, Dec, UH-1A & B
TM 55-1520-220-20, Nov, UH-1C
TM 55-1520-227-10 C17, Jan, CH-47
TM 55-1520-227-20PMI, Dec, CH-47
TM 55-1905-217-12, Dec, LCM-8
TM 55-2210-216-20P C2, Jan, Rail Equip

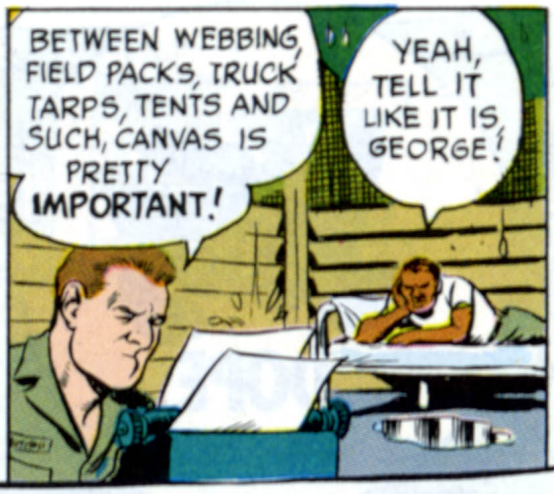
LUBRICATION ORDERS

LO 5-2805-201-12, Dec, 25 HP Gas Outboard Motor
LO 5-3810-289-12-1, -3 & -4, Dec, 12½-Ton Crawler Crane Shovel
LO 5-3820-239-12-1, Dec, Earth Boring Equip
LO 5-3825-209-12, Dec, Road Clearing Equip
LO 5-4610-208-12, Dec, 420 Gal/Hr Water Purification Unit
LO 5-4940-220-12-1 & -2, Dec, Trk Mtd Contact Maint Shop Equip
LO 5-6115-434-12, Dec, Gas Turbine Eng Drvn Power Unit Util Pack
LO 9-1430-502-12, Dec, Hawk
LO 9-2300-224-12 C4, Dec, M113, M577, M577A1 Carriers, M106 Mortar, M132 Flame Thrower

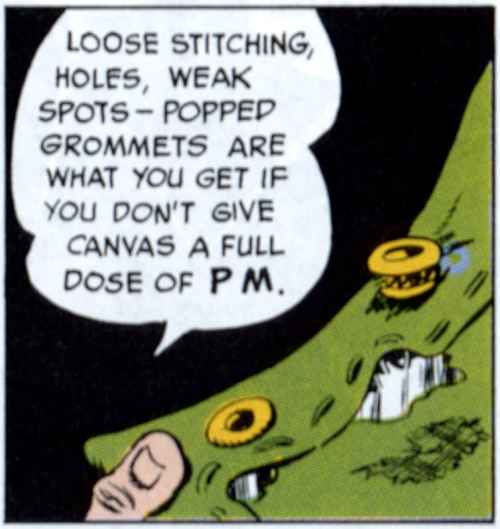
MISCELLANEOUS

DA Form 2028, Dec, Recommended Changes to Pubs
SB 700-20 & Ch 1, Jan, Logistics
SB 740-6930-97-E01, Jan, Part Driver Testing and Training Device
SC 3990-97-CL-E06, Dec, Rigger's Cargo Set
SC 4940-97-CL-E42, Nov, Auto Mechanic's Tool Set
TB 55-1500-206-20/14, Feb, UH-1 Series
TB 55-1520-206-20/9, Feb, OH-23
TB 750-98-23, Dec, M151 Truck
TB 750-992-4 C4, Feb, RW EIR

JOE'S DOPE
CANVAS NEEDS CARE
I'M GONNA WRITE A LETTER TO HALF-MAST.
WHY?
I WANT HIM TO PASS THE WORD ON THE CARE OF TENTS AND TARPS.
NOW, THAT'S A GOOD IDEA!
PLONK
PLOOP
PLOP
PLOOP



Dear Sgt Half-Mast,



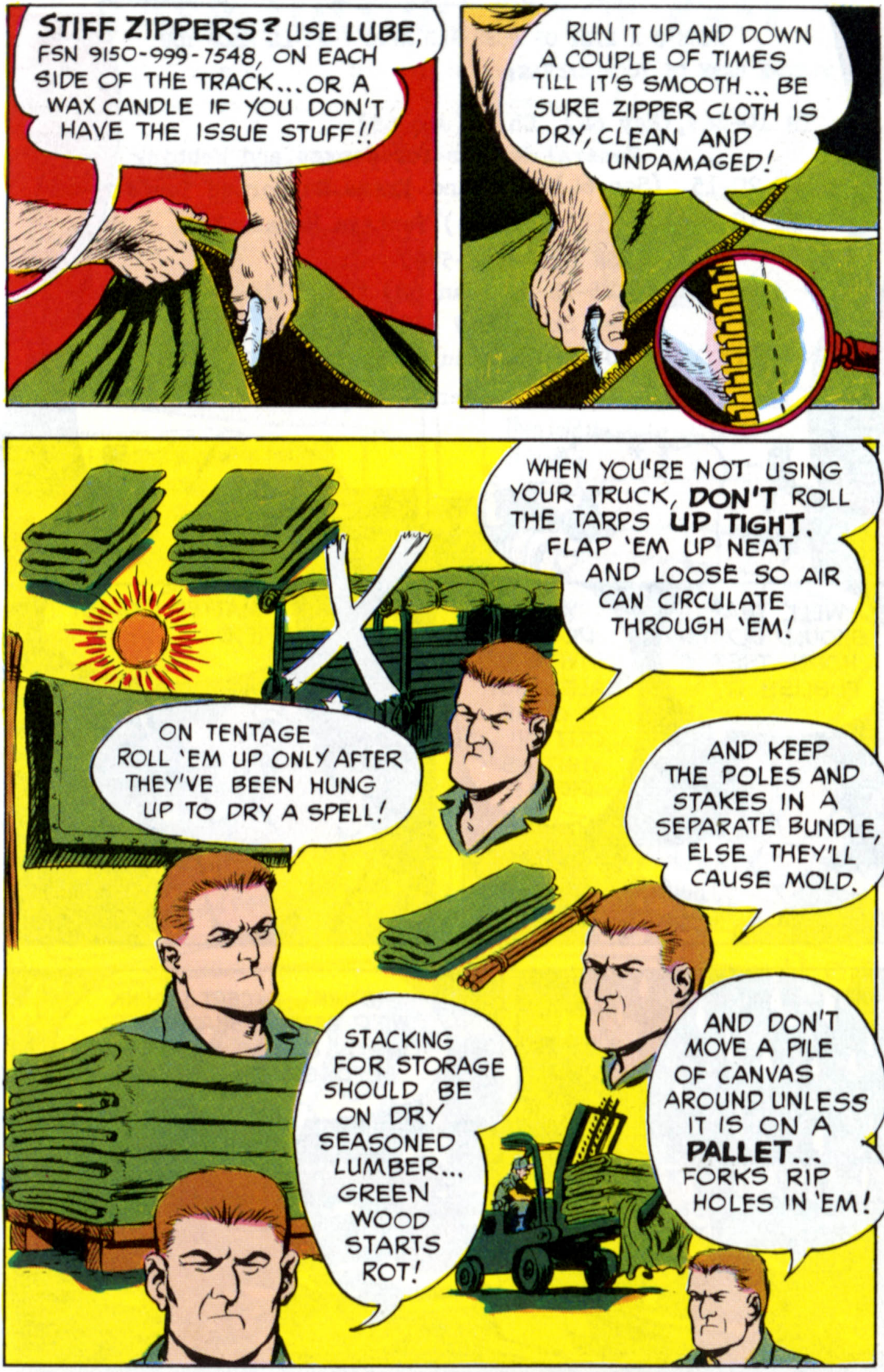
ON TRUCK TARPS YOU'VE GOT TO CHECK FOR SMALL RIPS AND WATCH FOR SHARP EDGES ON CARGO LOADS!
WHETHER IT'S TENTAGE OR TRUCKS ON THE MOVE -- POLES, BRANCHES OR ANYTHING RUBBING AGAINST YOUR WET CANVAS CAN CAUSE LEAKS.
Y'SEE, MOISTURE RUINS CANVAS AND ALSO CAUSES MILDEW.
SEAMS ARE A BIG DANGER POINT... MOISTURE COLLECTS THERE AND MAKES A NICE, WARM, WET, DARK PLACE FOR FUNGUS TO GROW AND EAT UP BOTH CANVAS AND STITCHING.
OUT HERE, WE HAVE TO REPLACE TENTS MORE OFTEN.
BETTER MAKE SURE NEW ONES ARE ON ORDER!

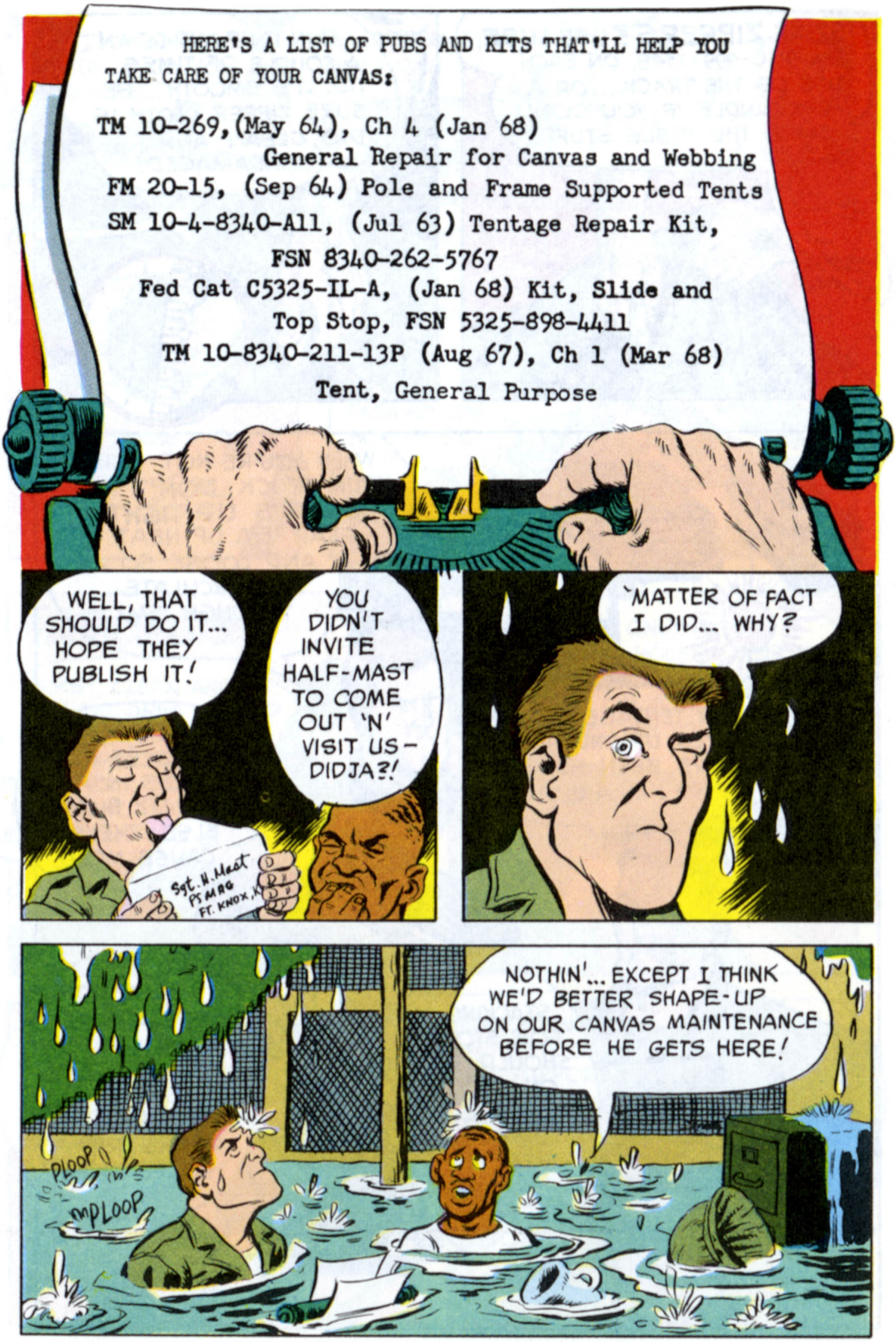
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLE

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

ETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

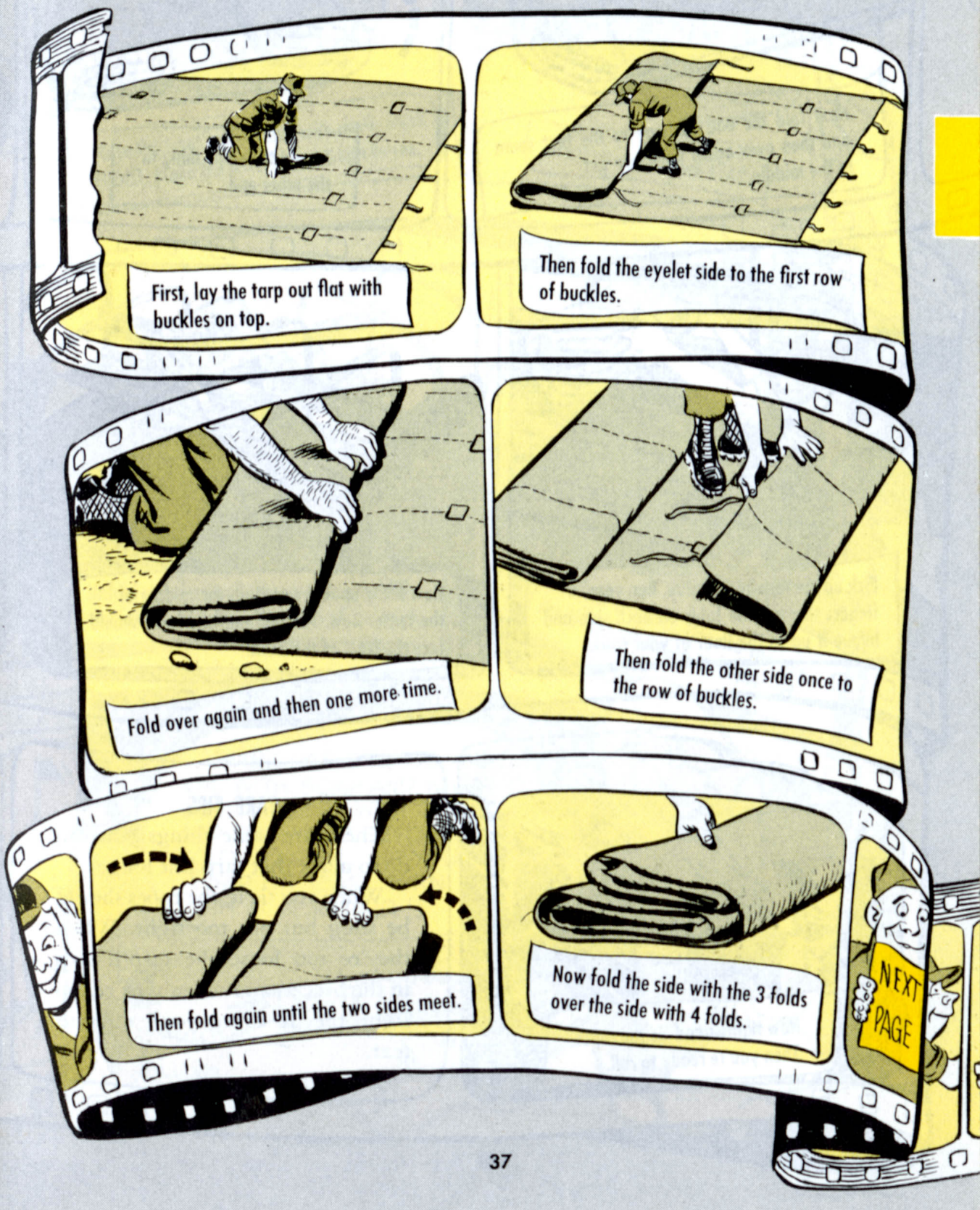
OK...I'VE HUNG THE PIN-UP... NOW, HOW YOU DOIN'?
I'M UP TO RE-TREATING AND PATCHING.
RE-TREATING
CHECK YOUR LOCAL SOP FOR RETREATING OF CANVAS.
LOCAL SOP
TREAT YOUR TENT WITH TEXTILE PRESERVATIVE COMPOUND, FSN 8030-264-3840, (5 GAL) DILUTED WITH STODDARD SOLVENT. IT'S FLAMMABLE AND IT'S POTENT. SO ALL FIRE (INCLUDING SMOKING) IS "OFF LIMITS". SEE CHANGE 4 (JAN 68) TO TM 10-269 (MAY 64), PARA 40, ON HOW TO DO IT.
PATCHING
FIRST, CLEAN AND DRY THE AREA AROUND THE TEAR. CUT PATCHES FROM THE COTTON DUCK IN YOUR TENTAGE REPAIR KIT, FSN 8340-262-5767.
YOU ONLY PATCH SMALL HOLES (NOT OVER 4 3/4 INCHES) THAT ARE NOT ON A SEAM EDGE, OR CLOSE TO HARDWARE.
USE ADHESIVE! ...FSN 8040-266-0850 GIVES YOU A PINT... COAT BOTH PATCH AND CANVAS TO MAKE IT STICK.
FOR REINFORCING YOU HAND SEW ON GROMMET SUPPORT PATCHES-- NO MATTER HOW BIG THE HOLE.
THE TENTAGE REPAIR KIT HAS EVERYTHING YOU'LL NEED!

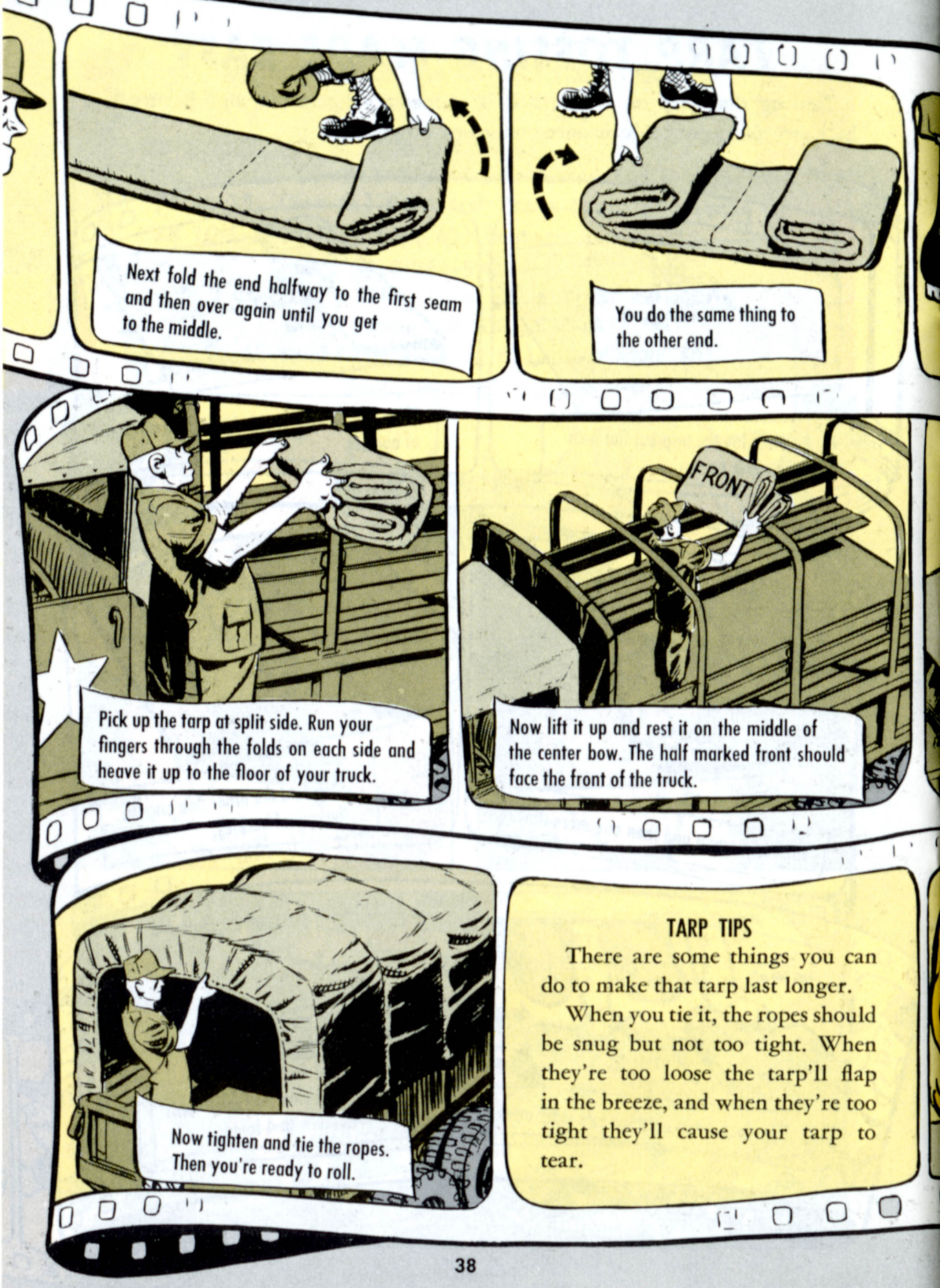

STIFF ZIPPERS? USE LUBE, FSN 9150-999-7548, ON EACH SIDE OF THE TRACK... OR A WAX CANDLE IF YOU DON'T HAVE THE ISSUE STUFF!!
RUN IT UP AND DOWN A COUPLE OF TIMES TILL IT'S SMOOTH... BE SURE ZIPPER CLOTH IS DRY, CLEAN AND UNDAMAGED!
WHEN YOU'RE NOT USING YOUR TRUCK, DON'T ROLL THE TARPS UP TIGHT. FLAP 'EM UP NEAT AND LOOSE SO AIR CAN CIRCULATE THROUGH 'EM!
ON TENTAGE ROLL 'EM UP ONLY AFTER THEY'VE BEEN HUNG UP TO DRY A SPELL!
AND KEEP THE POLES AND STAKES IN A SEPARATE BUNDLE, ELSE THEY'LL CAUSE MOLD.
STACKING FOR STORAGE SHOULD BE ON DRY SEASONED LUMBER... GREEN WOOD STARTS ROT!
AND DON'T MOVE A PILE OF CANVAS AROUND UNLESS IT IS ON A PALLET... FORKS RIP HOLES IN 'EM!


HERE'S A LIST OF PUBS AND KITS THAT'LL HELP YOU TAKE CARE OF YOUR CANVAS:
TM 10-269,(May 64), Ch 4 (Jan 68)
General Repair for Canvas and Webbing
FM 20-15, (Sep 64) Pole and Frame Supported Tents
SM 10-4-8340-All, (Jul 63) Tentage Repair Kit,
FSN 8340-262-5767
Fed Cat C5325-IL-A, (Jan 68) Kit, Slide and
Top Stop, FSN 5325-898-4411
TM 10-8340-211-13P (Aug 67), Ch 1 (Mar 68)
Tent, General Purpose
WELL, THAT SHOULD DO IT... HOPE THEY PUBLISH IT!
YOU DIDN'T INVITE HALF-MAST TO COME OUT 'N' VISIT US - DIDJA?!
Sgt. H. Meat PSMAG FT. KNOX, KY
'MATTER OF FACT I DID... WHY?
NOTHIN'... EXCEPT I THINK WE'D BETTER SHAPE-UP ON OUR CANVAS MAINTENANCE BEFORE HE GETS HERE!
PLOOP
mPLOOP

TARP TOSSING MADE EASY

Putting that tarp on your truck is a one-man operation, but it sure is a heckuva lot easier to do it once you know how to fold it.

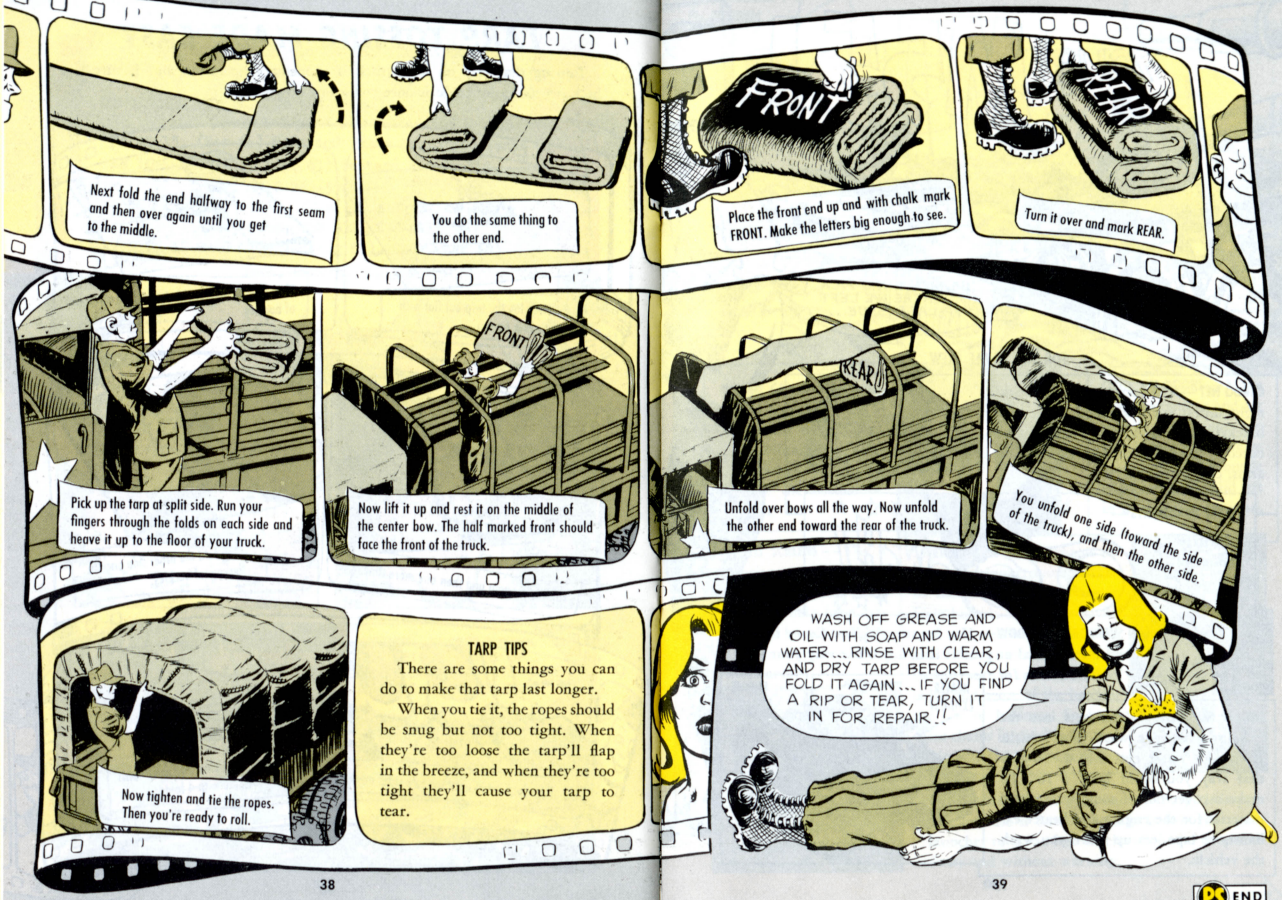


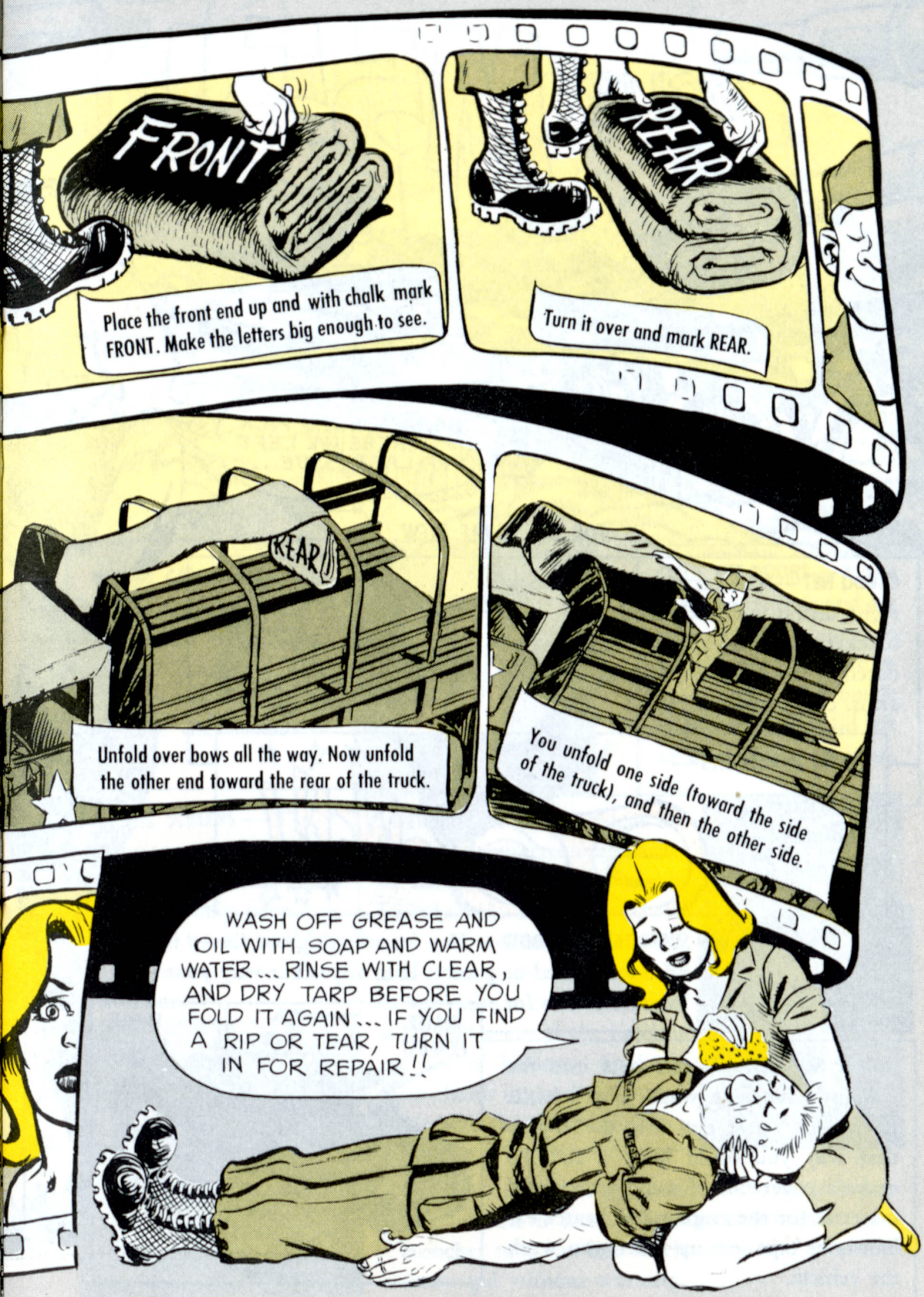


TARP TIPS

There are some things you can do to make that tarp last longer.

When you tie it, the ropes should be snug but not too tight. When they're too loose the tarp'll flap in the breeze, and when they're too tight they'll cause your tarp to tear.


Next fold the end halfway to the first seam and then over again until you get to the middle.
You do the same thing to the other end.
FRONT
Place the front end up and with chalk mark FRONT. Make the letters big enough to see.
REAR
Turn it over and mark REAR.
Pick up the tarp at split side. Run your fingers through the folds on each side and heave it up to the floor of your truck.
FRONT
Now lift it up and rest it on the middle of the center bow. The half marked front should face the front of the truck.
REAR
Unfold over bows all the way. Now unfold the other end toward the rear of the truck.
You unfold one side (toward the side of the truck), and then the other side.
Now tighten and tie the ropes. Then you're ready to roll.
TARP TIPS
There are some things you can do to make that tarp last longer.
When you tie it, the ropes should be snug but not too tight. When they're too loose the tarp'll flap in the breeze, and when they're too tight they'll cause your tarp to tear.
WASH OFF GREASE AND OIL WITH SOAP AND WARM WATER... RINSE WITH CLEAR, AND DRY TARP BEFORE YOU FOLD IT AGAIN... IF YOU FIND A RIP OR TEAR, TURN IT IN FOR REPAIR!!
HAGAR
END


FRONT
Place the front end up and with chalk mark FRONT. Make the letters big enough to see.
REAR
Turn it over and mark REAR.
REAR
Unfold over bows all the way. Now unfold the other end toward the rear of the truck.
You unfold one side (toward the side of the truck), and then the other side.
WASH OFF GREASE AND OIL WITH SOAP AND WARM WATER ... RINSE WITH CLEAR, AND DRY TARP BEFORE YOU FOLD IT AGAIN ... IF YOU FIND A RIP OR TEAR, TURN IT IN FOR REPAIR!!

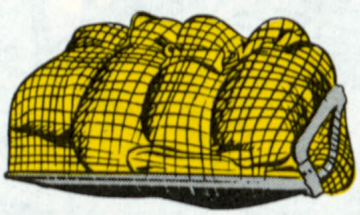
END

YOUR M551 P

OK, MEN, LET'S PICK UP WHERE WE LEFT OFF LAST ISSUE...

FOR THE WHOLE CREW

CARGO NET—The cargo net won't work right unless it's positioned inside the bracket arms and all the snaps are secured. If the net runs under the bracket arms, change it.

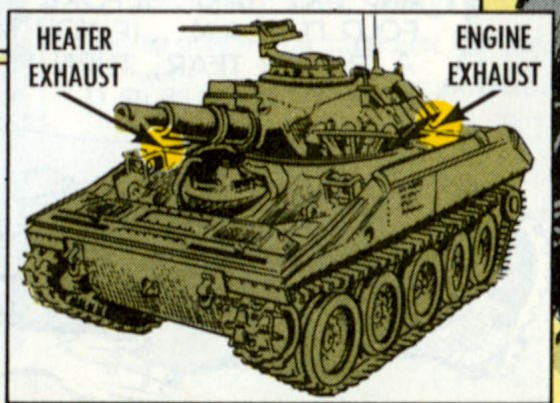


FRONT HEADLIGHTS—

Strictly no step!

SURFBOARD WINDOW—Not for stepping on. Cover it with cardboard or protect it in any other way your local SOP calls for.

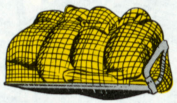
ENGINE EXHAUST—Water gets into the exhaust when you wash your vehicle. If enough water gets into the engine that way you could bend a rod. So make a cover out of some waterproof material for the engine and heater exhausts or tape 'em up when you wash the vehicle.



YOUR M551 PART 2 SHERIDAN

FOR THE WHOLE CREW

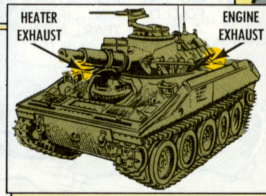
CARGO NET—The cargo net won't work right unless it's positioned inside the bracket arms and all the snaps are secured. If the net runs under the bracket arms, change it.



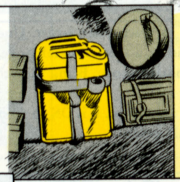
FRONT HEADLIGHTS—Strictly no step!

SURFBOARD WINDOW—Not for stepping on. Cover it with cardboard or protect it in any other way your local SOP calls for.

ENGINE EXHAUST—Water gets into the exhaust when you wash your vehicle. If enough water gets into the engine that way you could bend a rod. So make a cover out of some waterproof material for the engine and heater exhausts or tape 'em up when you wash the vehicle.

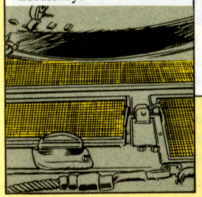


WATER CAN—Keep the straps tight on your 5-gal water can. Otherwise, vibration against the bracket could cut a hole in the bottom of the can.

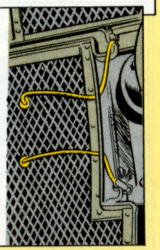


CLOSE THE DOORS—Make sure the battery and air cleaner access doors are shut before you traverse your turret. The bustle racks can crush a lid left in the upright position.

DEBRIS SCREENS—The 3 debris screens are handy for keeping out junk. You can help keep 'em in shape by not walking on them any more than necessary.



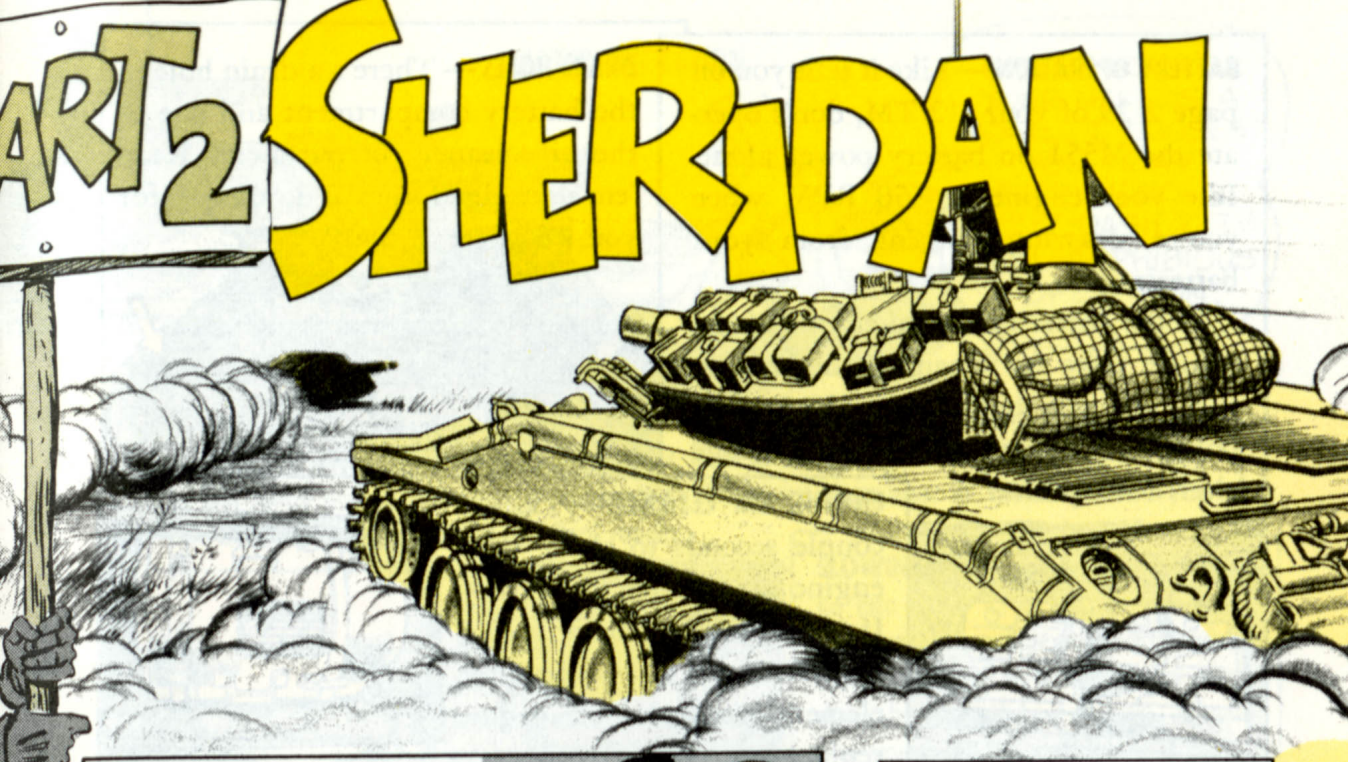
SAFETY CHAINS—The chains on the turret ring screens are there so the driver can remove it from his side or the rest of the crew can remove it from their side. That gives an emergency escape route in case the vehicle is hit and some of the hatches are out of business. So keep these chains in good shape and don't wire the screen in place.



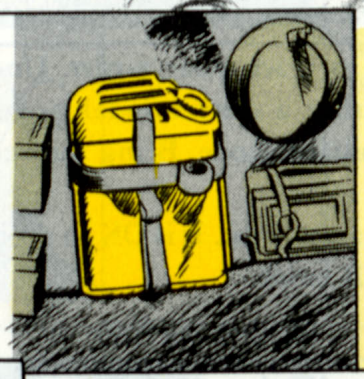
BATTERY CHARGE—A good battery charge is important because if battery voltage is low your gun-launcher tube can lose its elevation and drop suddenly and without warning.

PS MORE

ART 2 SHERIDAN

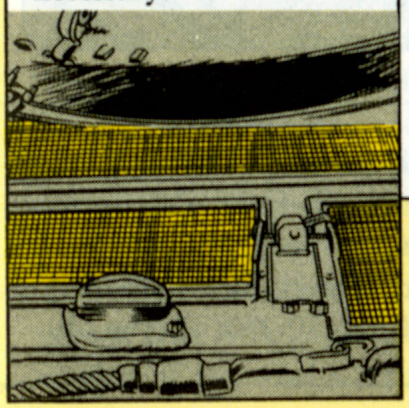


WATER CAN—Keep the straps tight on your 5-gal water can. Otherwise, vibration against the bracket could cut a hole in the bottom of the can.

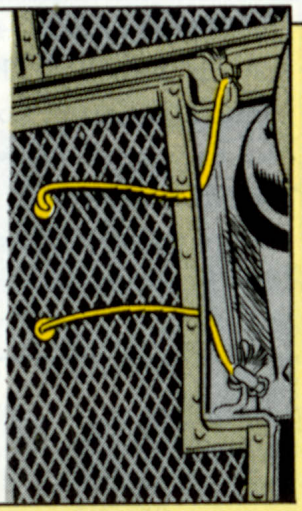


CLOSE THE DOORS—Make sure the battery and air cleaner access doors are shut before you traverse your turret. The bustle racks can crush a lid left in the upright position.

DEBRIS SCREENS—The 3 debris screens are handy for keeping out junk. You can help keep 'em in shape by not walking on them any more than necessary.



SAFETY CHAINS—The chains on the turret ring screens are there so the driver can remove it from his side or the rest of the crew can remove it from their side. That gives an emergency escape route in case the vehicle is hit and some of the hatches are out of business. So keep these chains in good shape and don't wire the screen in place.

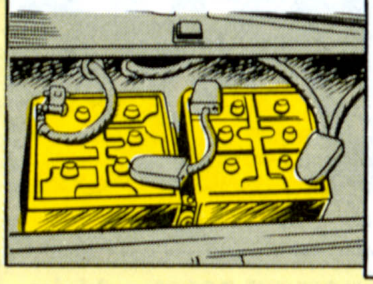


BATTERY CHARGE—A good battery charge is important because if battery voltage is low your gun-launcher tube can lose its elevation and drop suddenly and without warning.

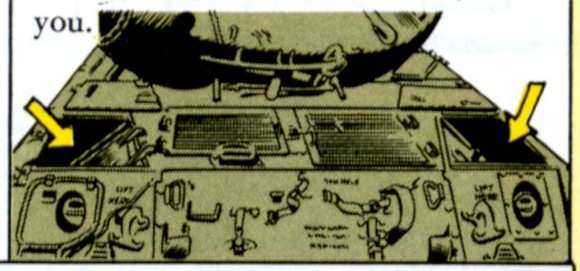
P.S MORE

BATTERY OPERATION—Like it tells you on page 2-29 of your -12 TM, don't operate the M551 on battery power alone. Idle your engine at 750 RPM when you're drawing current from your batteries.

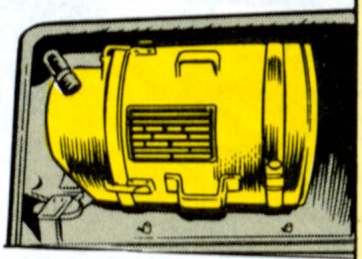
If the batteries are taken out of the vehicle (like for cleaning) make sure they are put back right. If battery polarity is reversed you can damage electrical circuits.



DRAIN HOLES—There's a drain hole in the battery compartment and one in the air cleaner compartment. Keep 'em unclogged, they'll do the job for you.



ENGINE AIR CLEANER—Take a couple seconds to check your engine air cleaner every day. If the indicator shows green, it's OK. If red shows, the filter element needs to be cleaned or replaced.

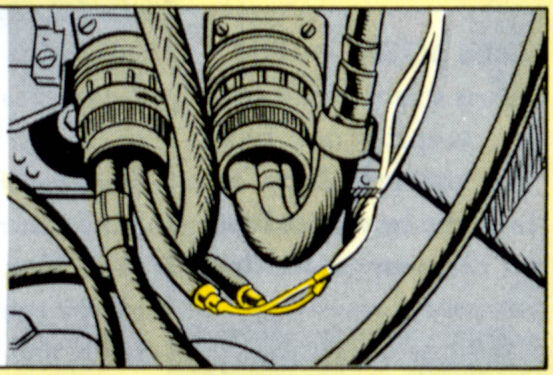


STAB MODE—Use stab mode to track your target. Under no conditions do you fire your main armament, either a conventional or missile round, while your vehicle is moving in the stabilized mode. Bring the vehicle to a halt before you shoot.

This applies only to main armament. It is OK to shoot the machine guns while the vehicle is moving in STAB mode.

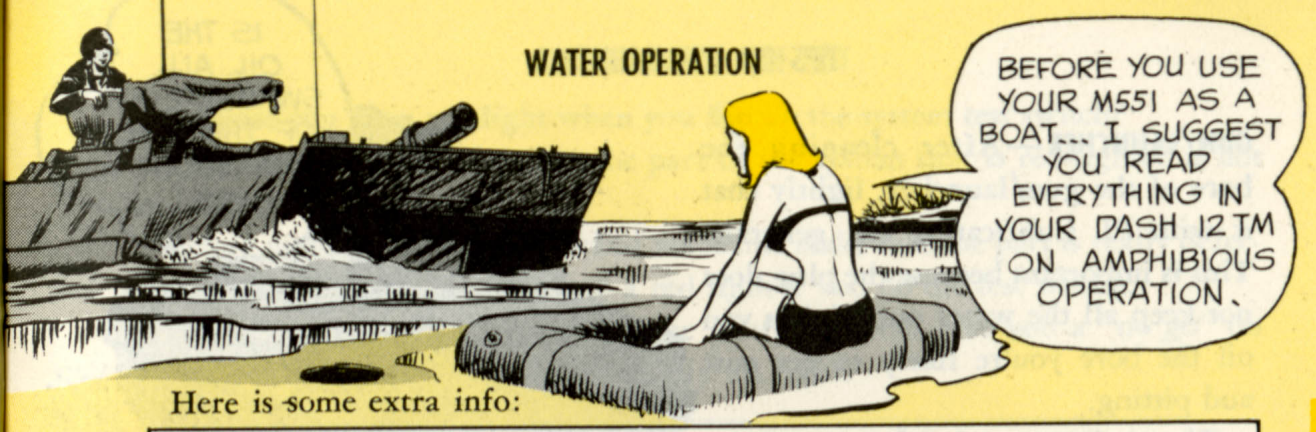
GROUND-HOPPING

GENERATOR HAZARD—The 2 small wires on the line from the generator to the voltage regulator don't have much slack so they tend to pull out when you remove the power pack for ground-hopping. With these lines disconnected, the generator won't charge your batteries.



TURBOCHARGER—When you have the power pack out of the vehicle the turbocharger is likely to pick up some dirt or rags or whatever. When operating the power pack out of the vehicle, install the air cleaner the way it says in fig 9-10 of your TM 9-2350-230-12 (Jun 66).

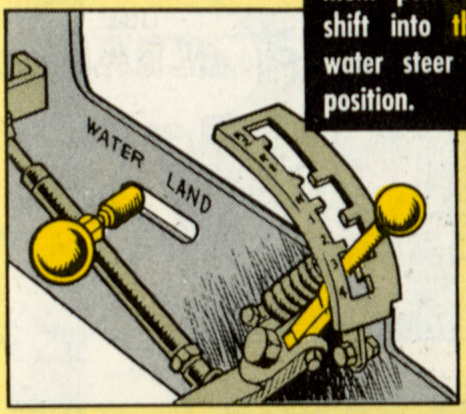
WATER OPERATION



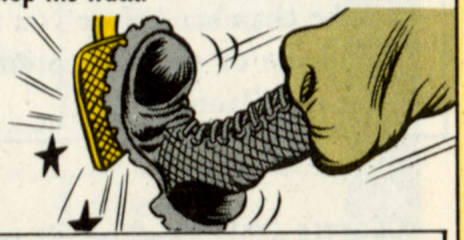
Here is some extra info:

WATER STEER LEVER — With the water steer lever in the LAND position, you have pivot steer in first range and in both reverse ranges. With the water steer lever in WATER position you also have pivot steer in second and third ranges.

BEST RANGE — To get maximum performance in water, shift into third range, with water steer lever in WATER position.

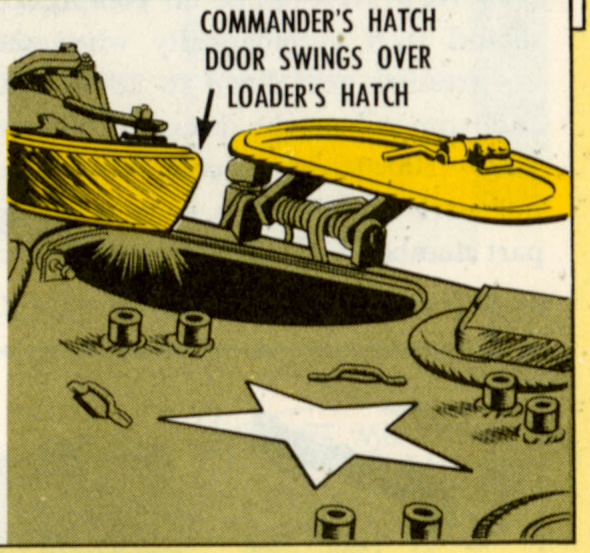


SLOWING DOWN — In water you can go into either R1 or R2, but R2 gives you more stopping power. Likewise, when you're in reverse, you can slow down by going into 1st (low). Whenever you make this shift in either direction, first hit your footbrake hard to stop the track.



COMMANDER'S HATCH — During water operation the commander's hatch should **not** be in the full-open position so the loader can get out of his own hatch in a hurry if he has to.

Even on land the commander has to be careful about having either half of his split hatch in the full-open position. He can seriously hurt a loader if he swings his cupola around too far. If the loader and commander work together on this there's no danger.



SHIFTING NECESSARY — As soon as you get your vehicle out of the water, shift the water steer lever into the LAND position. If it is left in the water position the vehicle will have pivot steer in second and third ranges. This could cause an accident if you tried a turn at high speed.

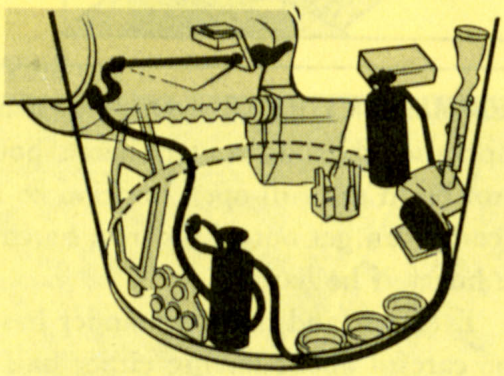
PS MORE

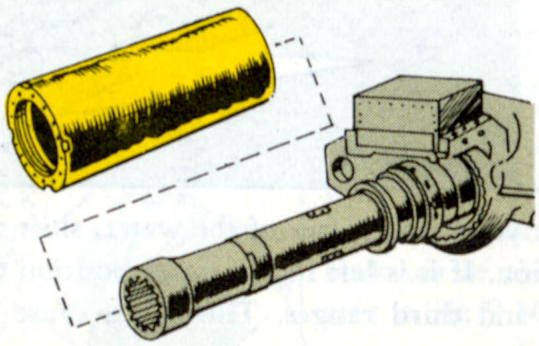
GUN/LAUNCHER—After cleaning the bore of the gun/launcher, lightly coat it with PL (lubricating oil, general). This is important because the plug does not keep all the water out. Unless you oil the bore you're likely to get rust and pitting.

The shell cases of the conventional rounds are hurt by oil, so all oil has got to be out of the chamber before you fire.

BREECH CHAMBER—The beveled back edge of the breech chamber needs to be cleaned daily if the gun is fired. All oil has to be removed from both the bore and the chamber before you fire either the missile or the conventional round in the gun/launcher.

2-BOTTLE SYSTEM—The air compressor should start automatically when the air pressure gets down to 2800±100 and stop when the pressure reaches 3200±100. If the air compressor does not work right, order a new one under part number 11644482.





BORE EVACUATOR—(Vehicles with serial number 699 and below) keep it clean because a dirty one could cause a flare-back. Clean it for 3 days in a row every time you fire.

MISSILE SYSTEM SELF-TEST

Suppose you get a red light when you flip up the system test switch?

This is supposed to mean that the part of the system that is red-lighted is not in a GO condition.

Before you call your over-worked mechanic make sure the part is really defective. Remember, you can also get a red light if you do the test wrong.

Here're some common, easy-to-make goofs that will give you a "no go" on the test even though the parts are really all right.

Red Lights Shows On	What Is Really Wrong	What To Do
Tracker	ALIGN lever was in the left position instead of extreme **right** when test was made	Put lever in proper position and repeat test
	or	
Tracker	Check-sight bulb is burned out	Replace bulb and repeat test
Sig Data Conv	ERROR lever was in the **right** position instead of the left when you did the tracker align test	Correct lever position and repeat both tests
	or	
Sig Data Conv	ERROR lever was in the **left** position instead of maximum right on the systems test	Correct lever, repeat test
Tracker and Sig Data Conv lights both on	Gun out of battery or In battery switch broken	Find out which, make adjustments and repeat test

Careful on this: Remember that your XMTR switch is not to be left ON for more than 15 seconds while testing or you could burn out the transmitter lamps.

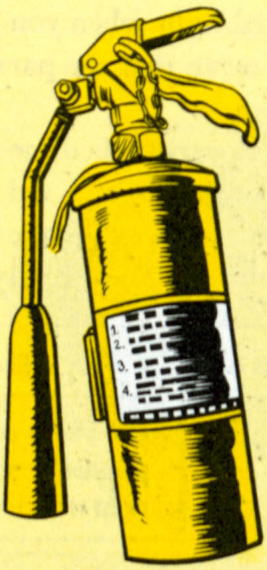
SUPPLY WORD

REPAIR KIT—The fiberglass repair kit for your flotation barrier comes under FSN 2540-929-8363. Page 9-152 of Ch 1 to the -12 TM tells how to make repairs.

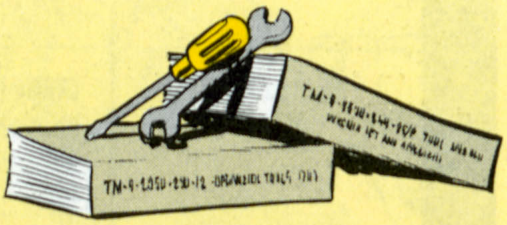
CAREFUL STOWAGE

Careful stowage is important for the M551 because the left (loader's) side of the basket is open and stray items can fall through. If some metal object (say a wrench) hits the power cable brush it can burn up batteries, master relay and other parts causing thousands of dollars worth of damage besides putting the vehicle out of action.

Signal flags and a gunner's seat backrest have got tangled up with power cables and even, in one case, a roll of green tape caused a lot of damage.

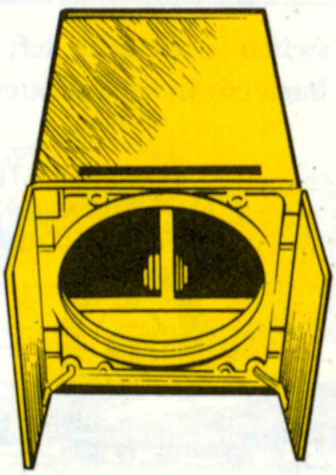


FIRE EXTINGUISHERS— The portable extinguisher is a throwaway item. Order a new one as FSN 4210-555-8837. For now you turn the main extinguisher back to supply when empty and order a new one as FSN 4210-930-2625. Other parts for the system are on pages 111-112 of TM 9-2350-230-25P/1 (Jun 66).



AN/VSS-3 SEARCHLIGHT— Your M551 vehicles may be equipped with one of these little beauties. Until you receive the TM on the light, remember these 2 important points:

1. Do not look directly into the light from close up when it is in operation. The high intensity visible or infrared could cause blindness.
2. Do not turn off the vehicle power source until the exhaust blower has stopped. Otherwise heat could build up in the light and blow it up.



SPECIAL TOOLS AND EQUIPMENT: They're listed in 3 different TM's. Here's what you check to make sure you have everything that's coming to you:

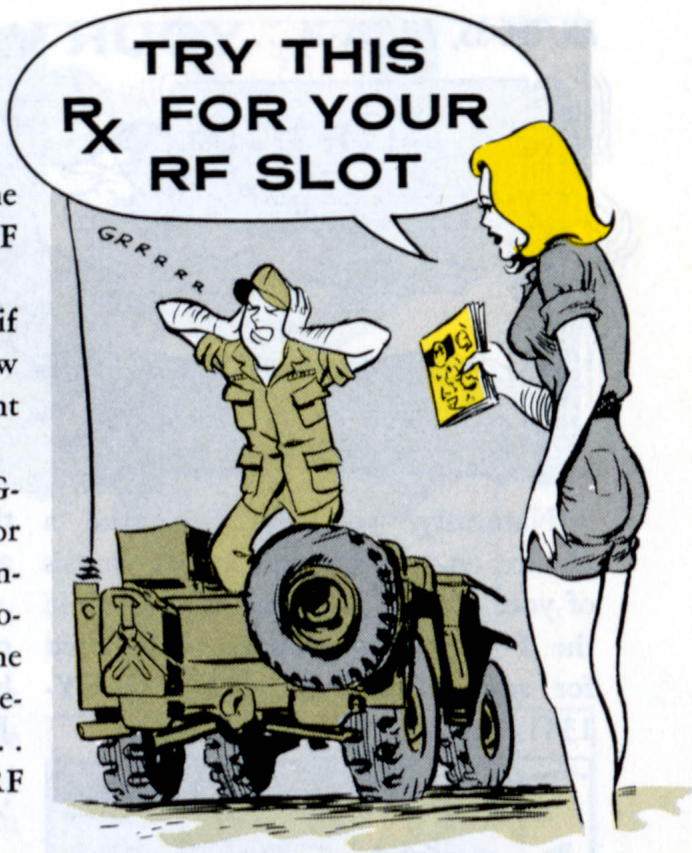
1. TM 9-2350-230-12 (Jun 66), pages 8-2 to 8-5.
2. TM 9-2350-230-25P/1 (Jun 66), pages 107-112.
3. TM 9-2350-230-25P/2 (Jun 66), pages 69-71.

Organizational Maintenance tool kits for the M551 are:

Set A — FSN 4910-903-0587 (10947686).
Set B — FSN 4910-903-0588 (10947687).

Supplemental tool kit (authorized only for MOS 45G20 personnel on the M551) FSN 4933-921-7335 (5910355).

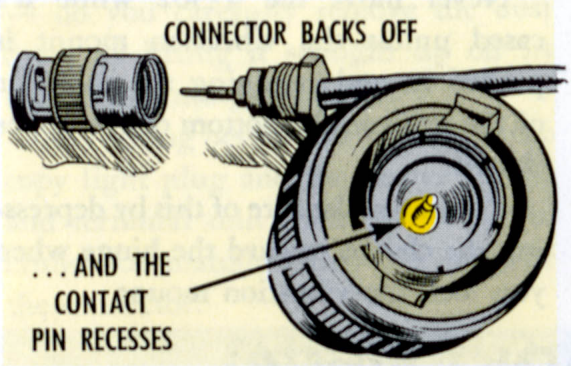
COMMUNICATIONS



You say you put the connector in the slot but all you ever got was low RF output?

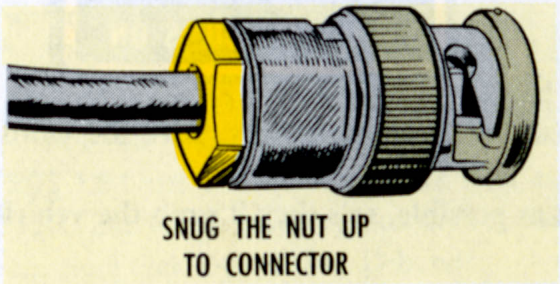
That's not exactly peanuts, but if your connector's on the end of a new CG-1773A/U RF cable, some pertinent PM might net you better output.

Like every Joe knows, the CG-1773A/U is a popular attachment for items like the AT-912, etc. But the connector (UG-88E/U) on some new production models is so stiff it backs the connector head far enough off the retaining nut to recess the contact pin . . . which naturally is a drag on good RF output.



Naturally, too, this limits the performance of your AT-912 . . . or any other antenna system you use it with.

The easiest fix for this dude is to take two wrenches and back the connector onto the retaining nut real firm like.



Then, make sure you can turn the connector without backing it off. It's good policy to make sure the nut is snugged up every time you connect the cable.

Part of the trouble is caused by bevelled insulation on some of the connectors.

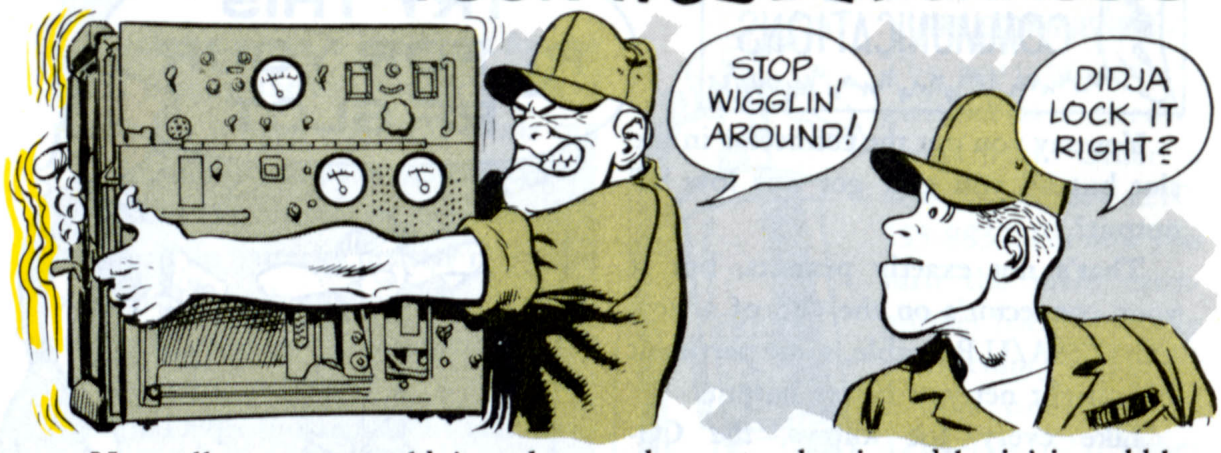
The bevel jams the nut firmly into place, allowing the connector to back off from it.

Older cables don't have the bevel and are slightly different in other areas.

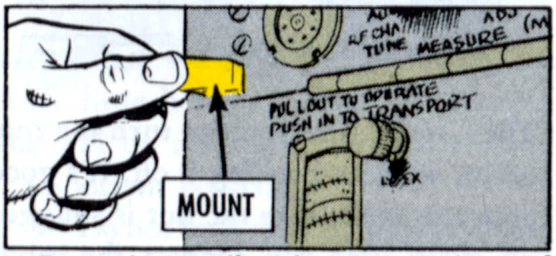
An improved cable (CG-1773B/U) is on the way and will replace the CG-1773A/U. The B model has a better RF connector . . . which should eliminate some of the everyday problems of the A model.

Whether you've got a new or old connector, next time your RF output ain't what it used to put, give the ol' connector a shot in the rear nut.

AN/TRC-35, AN/TRC-36 . . . YOUR WOBBLY CHASSIS



Naturally, you wouldn't take a chance on wobblin' the upper chassis of your T-302/TRC transmitter while the T-302's bein' shipped or handled for storage in transmitter case CY-1341/TRC.



But a loose vibration mount (caused by rubber-gasket suction from the inner case cover) can cause trouble by accidentally unlocking the front portion of the upper chassis and lettin' it wobble around.

That could spell damage to components — o'course, not on **your** T-302, but howsa 'bout some of those other Joes?

They oughta get the word. So tell 'em, huh?

Never move the T-302 while it's cased unless the vibration mount is pushed in and engaging the shoulder of the studs in the bottom of the upper chassis.

You can make sure of this by depressing the chassis toward the hinge when you lock the vibration mount.

NO-ZAP RADIO DECAL

For a 3 1/4 by 1 5/8-in, red and white decal which reads: "WARNING DO NOT START VEHICLE WHILE RADIO IS ON," fire off a DA Form 2407 work request to:

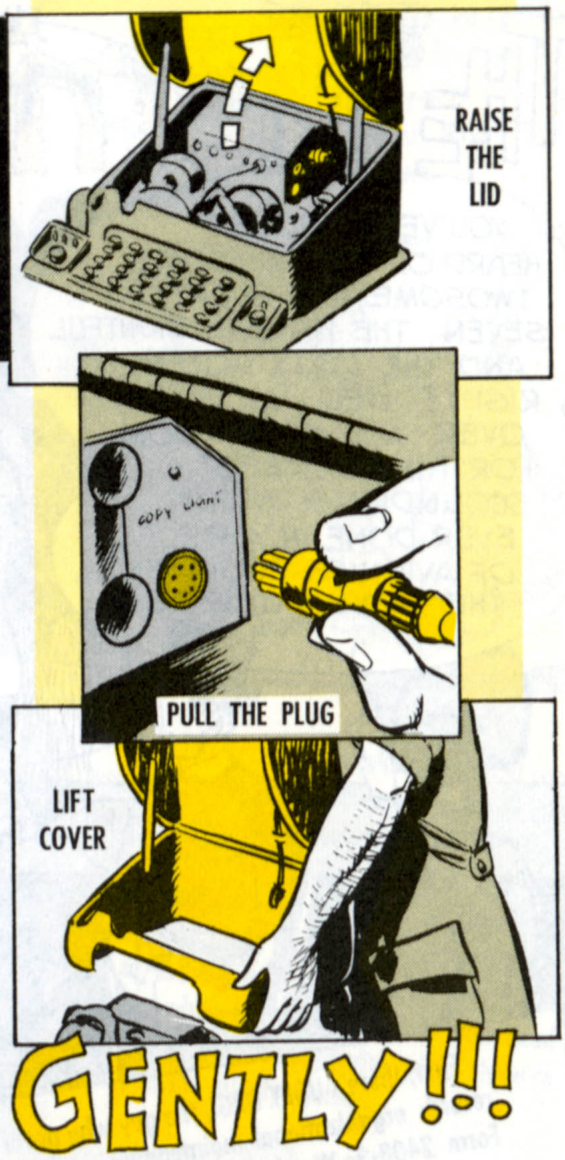
Commanding Officer
Sacramento Army Depot
ATTN: Director of Maintenance
Sacramento, California 95813

=

The adhesive-backed decals can be had for three cents each. Give the wording, size and color on the 2407.

Stick 'em as close to the starter switch as possible, so's they'll grab the vehicle operator's eye.

DISCONNECT... NOTHING'S WRECKED



It's easy enough to take off the dust cover to your TT-76 ( )/GGC teletypewriter perforator-transmitter.

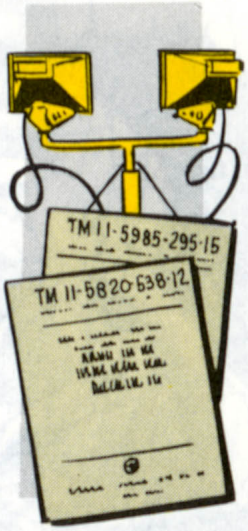
All you've gotta do is jerk the —

Whoa now, whoa now, whoa now . . . that's not right . . . you don't jerk anything!

What you do is remove the dust cover's P12 copy light plug from the J12 connector of the power supply and terminal unit. Then — and only then — do you carefully remove the dust cover by lifting it **straight up** off its rubber mounting grommets.

Any lifting before you disconnect the copy light plug and the power supply and terminal unit connector is apt to crunch or mangle either the plug or the connector.

THE MAST MOVES UP



Mast AB-577/GRC is coming up in this world . . . you don't have to scan the Angry-50 ( ) TM's to dig up installation info on the mast — the AB/577 has a TM all to itself.

You can eyeball TM 11-5820-538-12 (Jun 67) for installation details, guying instructions — and the scoop on using the AB-577 with a T-bar to support a pair of AT-903/G antenna horns.

The AB-577 rates the new deal because it's now being teamed up with other radio sets besides the Angry-50's.

For the AN/TRC-24 radio set, you'll want TM 11-5985-295-15 (Apr 68). It covers the new antenna group, OE-15/TRC-24, which will replace the antenna arrays that are used in the Track-24's C and D bands.

INTRODUCING...

THE THORNY THIRTEEN

YOU'VE NO DOUBT HEARD OF THE GRUESOME TWOSOME, THE SLEAZY SEVEN, THE HATEFUL EIGHTFUL AND THE DIRTY DOZEN. RIGHT? WELL, MOVE 'EM OVER AND MAKE ROOM FOR THE SCURVIEST SCOUNDRELS WHICH EVER DONE IN A PIECE OF AVIONICS EQUIPMENT... THE THORNY THIRTEEN!

First, there's UGLY ORGI, the guy who never records organizational maintenance on a DA Form 2408-3. Watch 'im, especially around ARC-44's and -54's.

LOUSY LOGGY is a character who could care less about logbook inserts . . . and does. Most common "missing" items in this guy's territory are avionics ESC manuals and DA Forms 2408 dash 3's and dash 5's.

INSERTS?

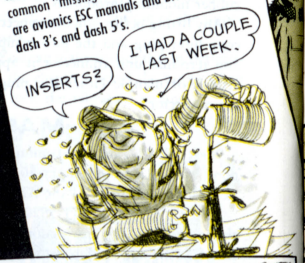
I HAD A COUPLE LAST WEEK.

ERRONEOUS EARL follows Lousy and Ugly in faithful fashion. His specialty is slipping errors in logbook entries. Such as, his 2408-17's and dash 18's, and, oh shame, he won't enter current MWO's on the 2408-5. You know what to do about him.

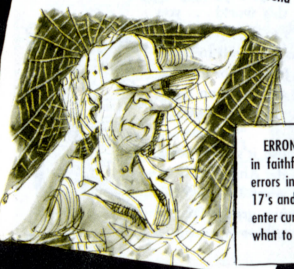
INTRODUCING...

THE Thorny THIRTEEN

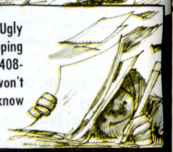
LOUSY LOGGY is a character who could care less about logbook inserts . . . and does. Most common "missing" items in this guy's territory are avionics ESC manuals and DA Forms 2408 dash 3's and dash 5's.



First, there's **UGLY ORGI**, the guy who never records organizational maintenance on a DA Form 2408-3. Watch 'im, especially around ARC-44's and -54's.

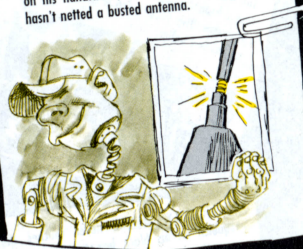


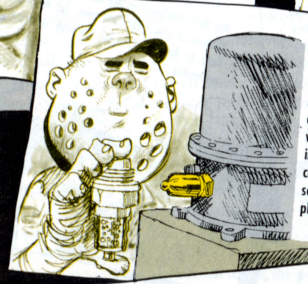
ERRONEOUS EARL follows Lousy and Ugly in faithful fashion. His specialty is slipping errors in logbook entries. Such as, his 2408-17's and dash 18's, and, oh shame, he won't enter current MWO's on the 2408-5. You know what to do about him.



SAFETY SAM is anything but, and he's just as apt to forget the safety wiring on shock-mounted items and electrical connectors as not. Or, he'll substitute soft copper wire for the job instead of the necessary steel wire.

LOOSE LARRY is the guy which never bothers to check on whether his homing antennas are snug in their ferrules. While you're checking on his handiwork, be sure his forgetfulness hasn't netted a busted antenna.





CHRIS THE SPONGE is a joker who could care less about dehydrator crystals in items like the gyrosyn compass of the UH-1. This color-blind lad can't tell the blue of an unsaturated crystal from the pink or white of an unhealthy wet one. This guy needs some polyunsaturating of the brain cells so's he'll change the crystals when they turn color. If you need some help via a dehydrator plug, there're plenty in the supply system.

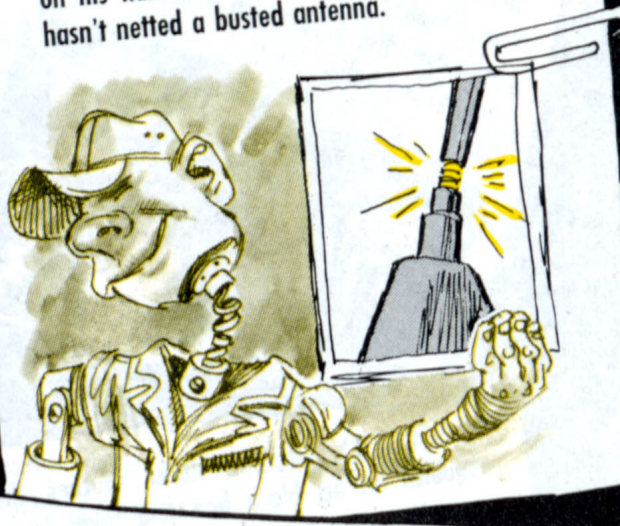
PADDY PROCRASTINATOR is a cat which can't keep his avionics ESC worksheet (2404) current . . . or correct.

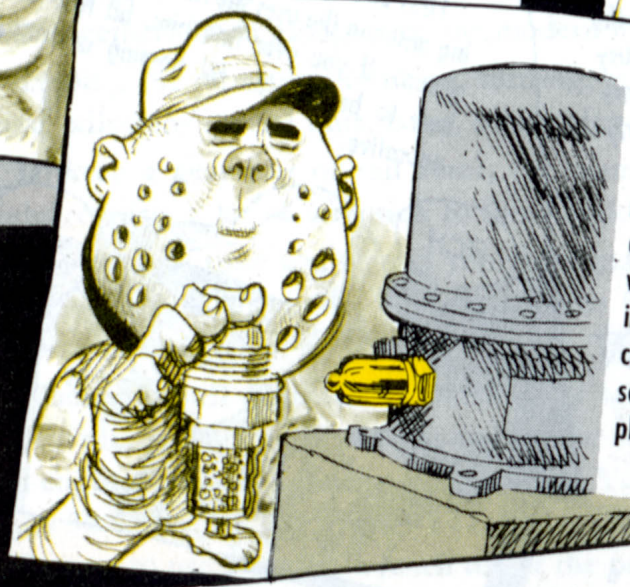
Far worse 'n Paddy, however, is **BLOWOUT BOB**, who'd as soon slip a 5-amp, slow blow fuse in a DY-107 dynamator as not . . . even though the book says you use a half-amp, normal blow type. His over-powered handiwork has damaged more avionics equipment than you can count. He's certainly no example for a serious type like you to follow.

PS MORE

SAFETY SAM is anything but, and he's just as apt to forget the safety wiring on shock-mounted items and electrical connectors as not. Or, he'll substitute soft copper wire for the job instead of the necessary steel wire.

LOOSE LARRY is the guy which never bothers to check on whether his homing antennas are snug in their ferrules. While you're checking on his handiwork, be sure his forgetfulness hasn't netted a busted antenna.





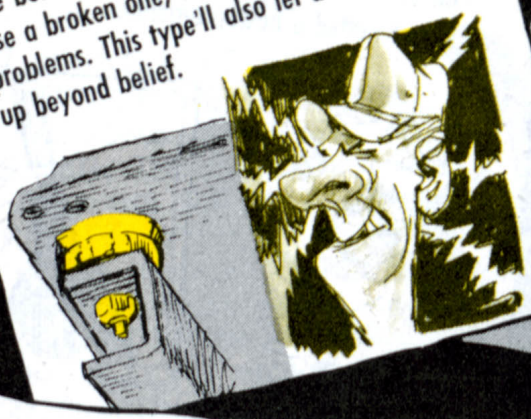
CHRIS THE SPONGE is a joker who could care less about dehydrator crystals in items like the gyrosyn compass of the UH-1. This color-blind lad can't tell the blue of an unsaturated crystal from the pink or white of an unhealthy wet one. This guy needs some polyunsaturating of the brain cells so's he'll change the crystals when they turn color. If you need some help via a dehydrator plug, there're plenty in the supply system.

PADDY PROCRASTINATOR is a cat which can't keep his avionics ESC worksheet (2404) current . . . or correct.

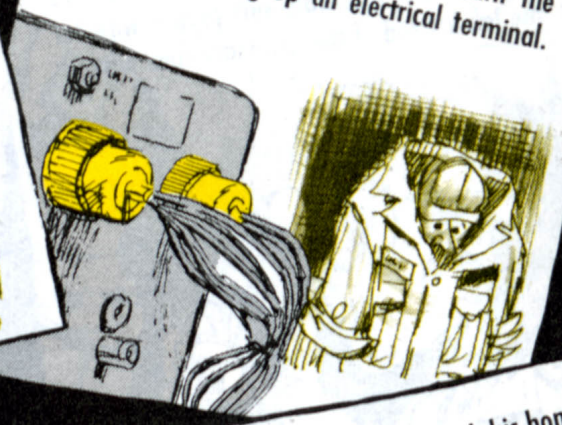
Far worse 'n Paddy, however, is **BLOWOUT BOB**, who'd as soon slip a 5-amp, slow blow fuse in a DY-107 dynamotor as not . . . even though the book says you use a half-amp, normal blow type. His over-powered handiwork has damaged more avionics equipment than you can count. He's certainly no example for a serious type like you to follow.

P.S. MORE

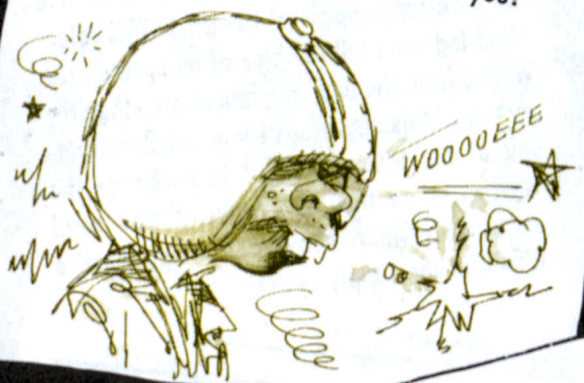
MOUNTEBANK MOUNTE'd just as soon forget the bonding strap for a shock mount . . . or use a broken one, which leads to all kinds of problems. This type'll also let a mount dirty-up beyond belief.



STAY LOOSE SID hardly gets a charge out of anything. This guy never did learn the value of snugging up an electrical terminal.



SQUIRRELY SQUELCH never touches the squelch on his black box and takes lousy reception as a necessary evil. He could care less about whether the squelch is properly set . . . or even operative. How about you?



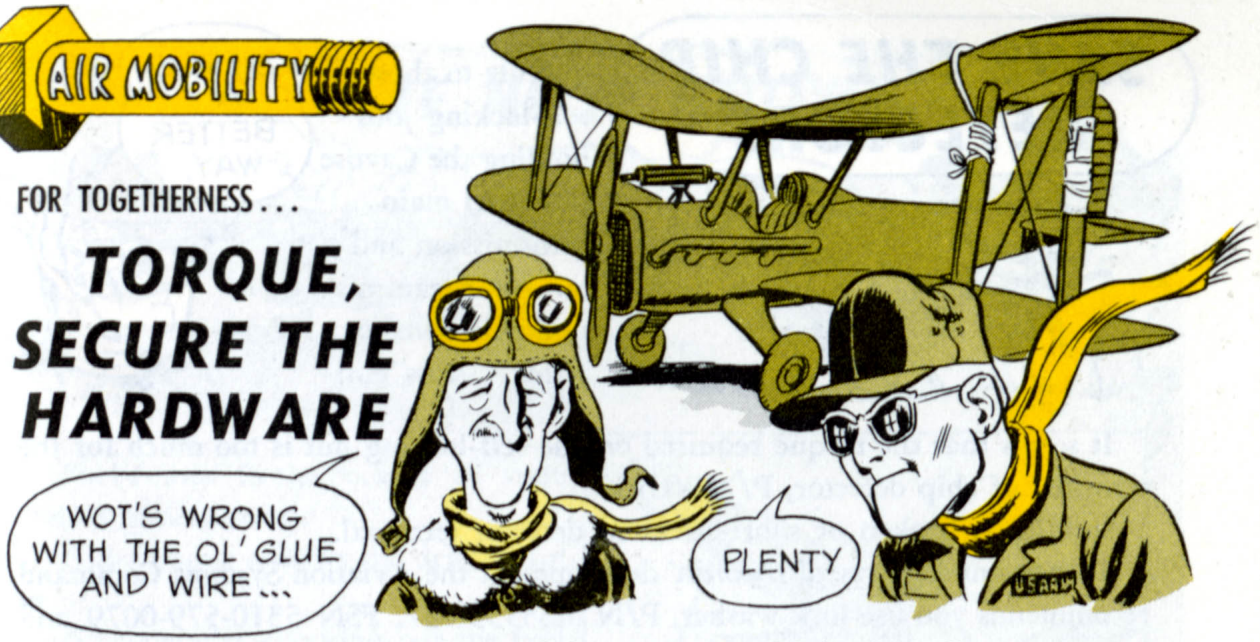
LOST LOUIE never bothers to check his homing antenna (he uses the AN/ARA-31 antenna group). If you ever find him, fill him in on how to be sure an FM homing antenna is operative.

And, last in line on Murderers' Row, is a many-hatted character, MANNY MOE MANN, who lets cables deteriorate, clamps get loose or lost, or fuel and electrical lines cross. Watch 'im!

AIR MOBILITY

FOR TOGETHERNESS . . .

TORQUE, SECURE THE HARDWARE



Glue and bailing wire hardware did a pretty good job of holding early aircraft together. Then along came the modern flying machines.

Keeping the vibrating, twisting, turning, rotating parts of a chopper in one piece called for special nuts, bolts, cotter pins and safety wire.

To keep a gear box or tail rotor, for example, from departing your bird in flight requires a lot of attention to those little jewels.

Like—every time you inspect your bird make sure every nut, cotter pin and safety wire is in place. Eye mating surfaces for chafing which would indicate loose studs and nuts.

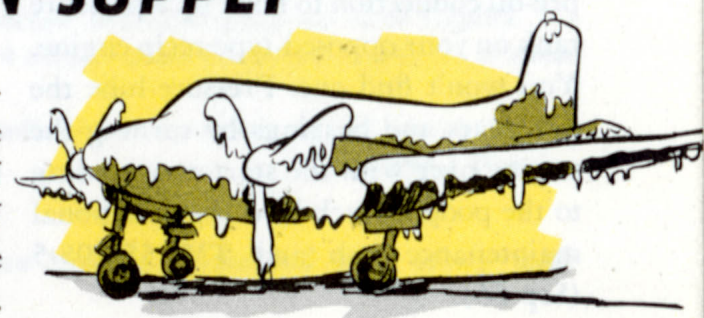
When you pull maintenance never reuse self-locking nuts and cotter pins in critical places. This includes flight and engine control systems, rotor, transmission and engine mounting systems and the like. You'll find this poop, and more, on pages 30 and 41 of TM 55-405-2 (11 Jul 66) on aircraft hardware and materials.

Be sure to use a torque wrench to get the proper torque called for by the TM for the specific type, make and series of your aircraft.

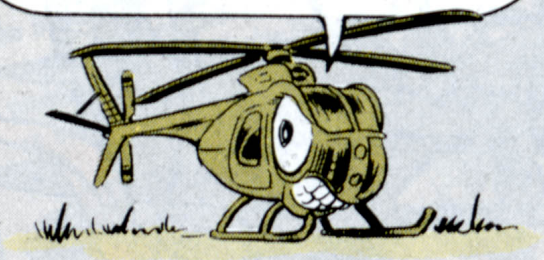
Don't take chances with those nickle-and-dime items. Make sure hardware stays put. A lost nut can cost you your chopper . . . even your life.

TUBE IN SUPPLY

If you Seminole mechs need a replacement anti-icing fluid tube for the new-type propeller bulkhead, FSN 1610-842-6375 — travel tube, P/N B1887, FSN 1610-310-5912, is in the supply system. That's the one you want.



SAVE THE CHIP DETECTORS



Nuts to those self-locking jobs holding the Cayuse (OH-6A) main transmission and tail rotor transmission chip detector wires . . . toss 'em!

It seems that the torque required on the self-locking nut is too much for the terminal of chip detector, P/N VC13C.

Result? A broken or short-circuited detector terminal.

To prevent this type of revoltin' development the Aviation Systems Command recommends you use lock washer, P/N MS35333-37, FSN 5310-579-0079, and nut, electrical, P/N MS20341-6S, FSN 5310-999-4031, to hold the detector wire. Torque the nut to 5-7 inch-pounds.

The parts are already in the supply system and will be authorized in a change to TM 55-1520-214-20P.

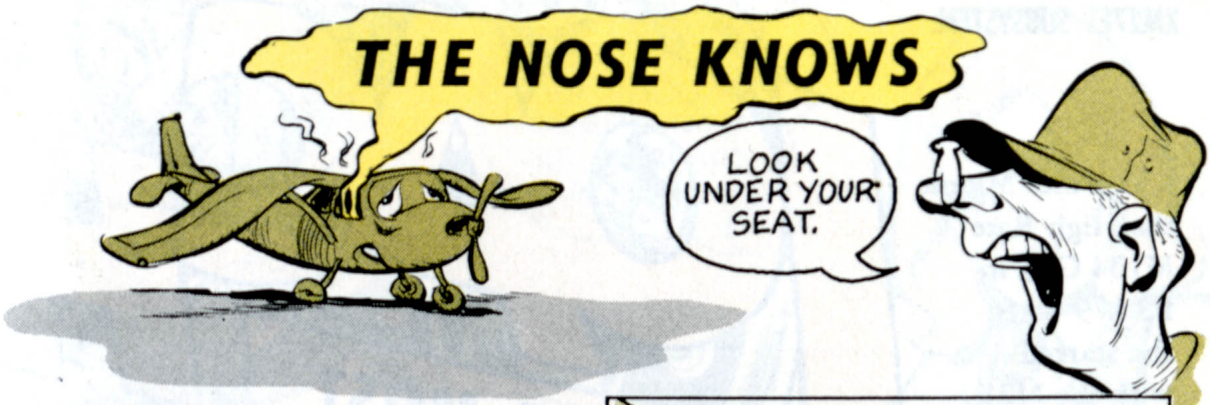
KEEP THE PIPELINE FILLED

If you aircraft supply-types find yourself with beaucoup unserviceable Mohawk (OV-1) A-C generators, move 'em to depot for overhaul, pronto. Those babies are in short supply. AVSCOM Msg AMSAV-R-EV 11-1383 (25 Nov 68) gives more scoop on this A-C generator.

PRE-OIL WITH STARTER

There's no need for you bird mechs to strain your eyeballs looking for a pre-oil connection to hook up a pressure tank on your opposed-type recip engine. You won't find one. Pressure-lube the dry gears and bearings by turning the engine over with the starter, according to the poop in each bird organizational maintenance pub and TM 55-405-5 (Sep 66).

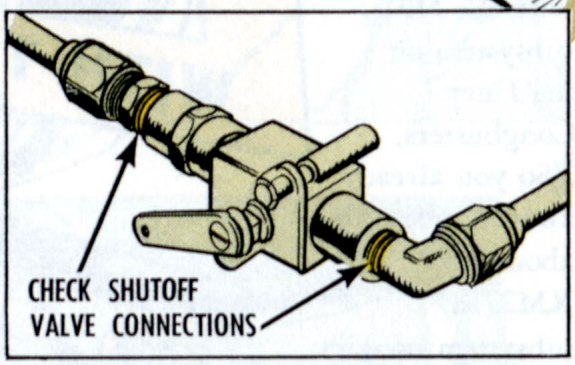
THE NOSE KNOWS



Fuel fumes in the cockpit of your T-41B Mescalero??

Follow your nose to the drip! drip! drip!

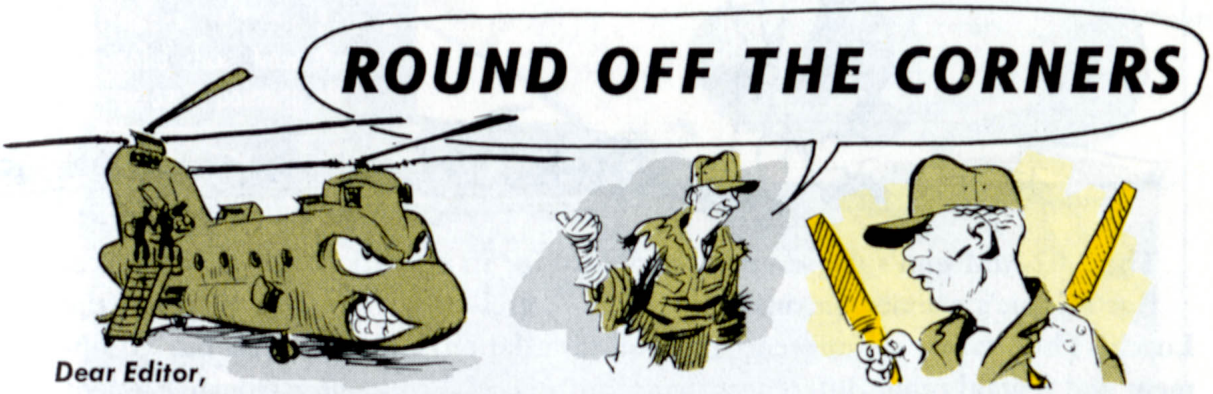
While you're checking out the fuel system, focus on the shutoff valve under the floorboard in front of the co-pilot's seat.



The connections on this baby have been known to loosen up due to vibration . . . could be a loose nut?

Re-torque the connection nut to the torque value specified in the maintenance manual—that'll stop the leak!

ROUND OFF THE CORNERS



Dear Editor,

It seems like maintenance types are always tearing their clothes and coming up with cuts when working around Chinook (CH-47) engines with the cowling open.

The upper engine access cover and attached side covers are the chief culprits.

So, we took a file and rounded off the 4 corners of all 3 covers . . . gets rid of those sharp corners once-and-for-all.

One point, tho, make sure the corner radius is no more than 1/4-in maximum.

Norman J. Dunning

(Ed Note—Good going. The Aviation Systems Command goes along with your suggestion)

XM27E1 SUBSYSTEM:

You met Minnie the High Rate M134 Gun in PS 179 when she starred with the M21 subsystem on the Huey Congbusters.

So you already know a good bit about the XM27E1 subsystem used exclusively on the Cayuse (OH-6A) the "Loach."

The 7.62-MM gun's the same . . . and ditto for its operation and maintenance.

But Minnie's a loner on this subsystem . . . fires only from the left side of the Loach. This takes a different type of installation, different sighting equipment and several other differences that require special know-how from armament crew and pilot.

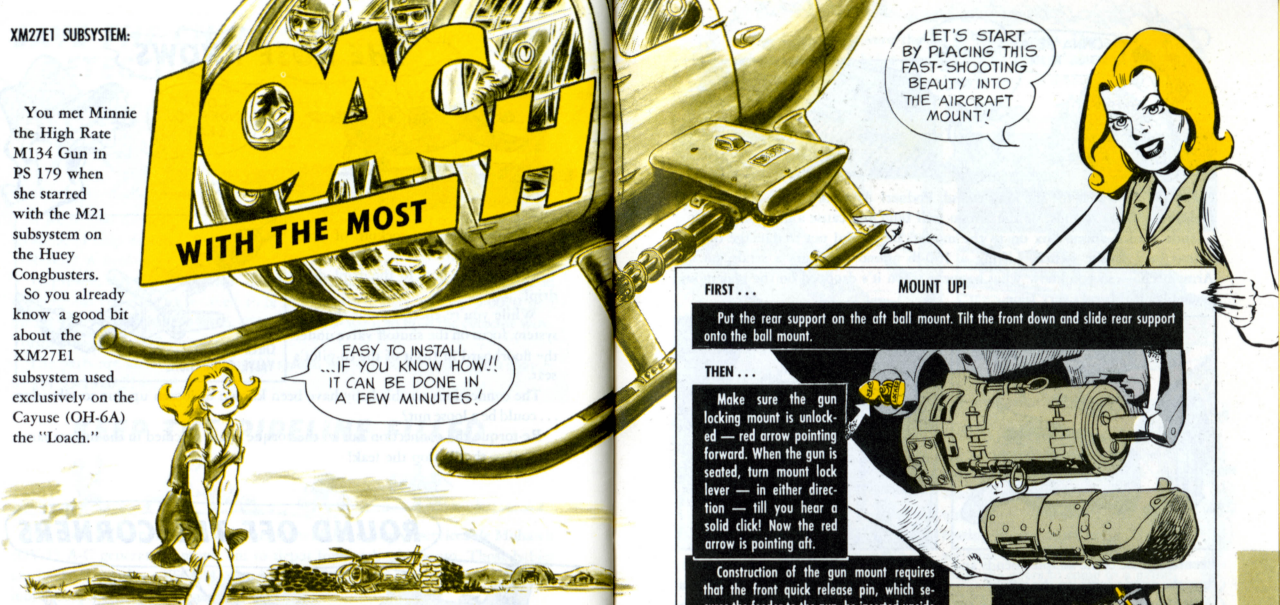
You can install this system in 5 minutes or less. Just attach the mount assembly to the hard points with 3 quick-release pins — 2 on the floor of the cargo compartment and one on the bulkhead. Then mount the XM70E1 sight and rod assembly to the bulkhead with a bolt and quick-release pins and finally secure the sight and mount and electrical connectors. Presto!

Your pubs — TM 9-1005-298-12 and -20P (May 67) — will clue you in on the specifics, but here're some timely PM tips that'll ease the way to better performance.

LOACH WITH THE MOST

You met Minnie the High Rate M134 Gun in PS 179 when she starred with the M21 subsystem on the Huey Congbusters.

So you already know a good bit about the XM27E1 subsystem used exclusively on the Cayuse (OH-6A) the "Loach."



The 7.62-MM gun's the same . . . and ditto for its operation and maintenance.

But Minnie's a loner on this subsystem . . . fires only from the left side of the Loach. This takes a different type of installation, different sighting equipment and several other differences that require special know-how from armament crew and pilot.

You can install this system in 5 minutes or less. Just attach the mount assembly to the hard points with 3 quick-release pins — 2 on the floor of the cargo compartment and one on the bulkhead. Then mount the XM70E1 sight and rod assembly to the bulkhead with a bolt and quick-release pins and finally secure the sight and mount and electrical connectors. Presto!

Your pubs — TM 9-1005-298-12 and -20P (May 67) — will clue you in on the specifics, but here're some timely PM tips that'll ease the way to better performance.

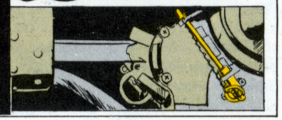
FIRST . . . **MOUNT UP!**

Put the rear support on the aft ball mount. Tilt the front down and slide rear support onto the ball mount.

THEN . . .

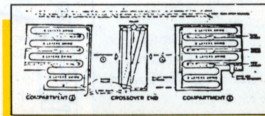
Make sure the gun locking mount is unlocked — red arrow pointing forward. When the gun is seated, turn mount lock lever — in either direction — till you hear a solid click! Now the red arrow is pointing aft.

Construction of the gun mount requires that the front quick release pin, which secures the feeder to the gun, be inserted upside down. Safety this pin to keep it from falling out during flight or operation of gun. Thread the wire thru the ring, then over far end of pin and twist



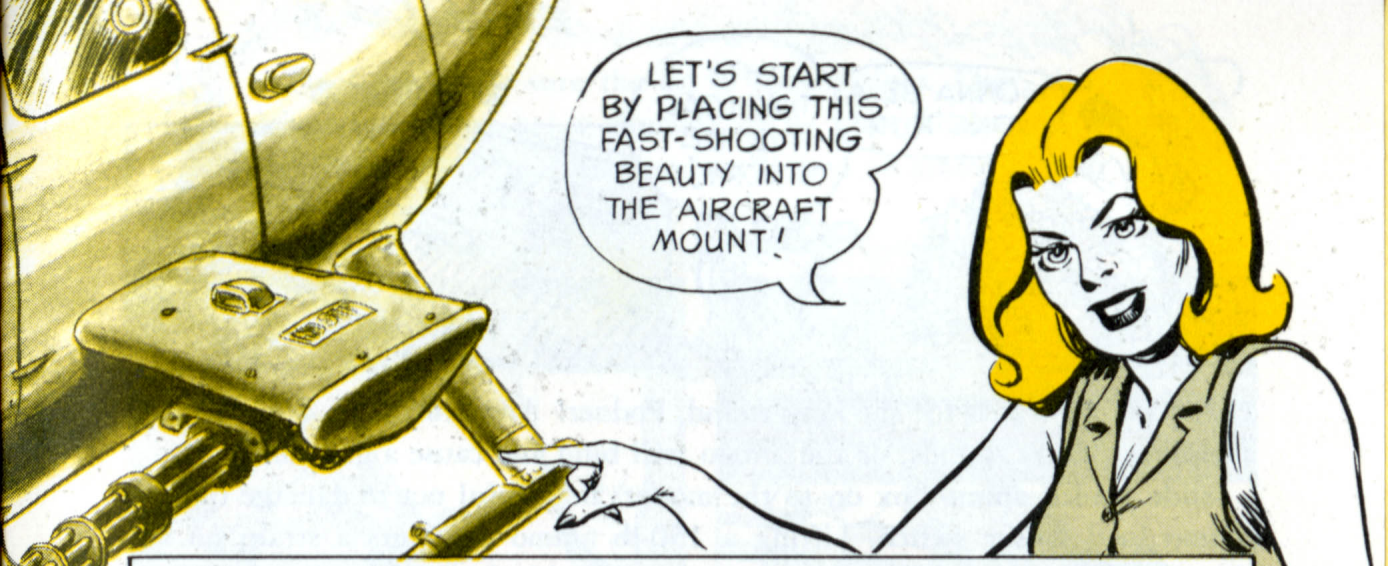
LOADING, AMMO TIPS

Follow instructions on decal on inside of ammo box lid and you'll be sure to load boxes right. Follow the arrow! Watch for long rounds. Your job is easier if you have the 1500-round preloaded belt. But you'll still have to split a belt to get the full 2000 rounds



AMMO BOX DECAL

PS MORE

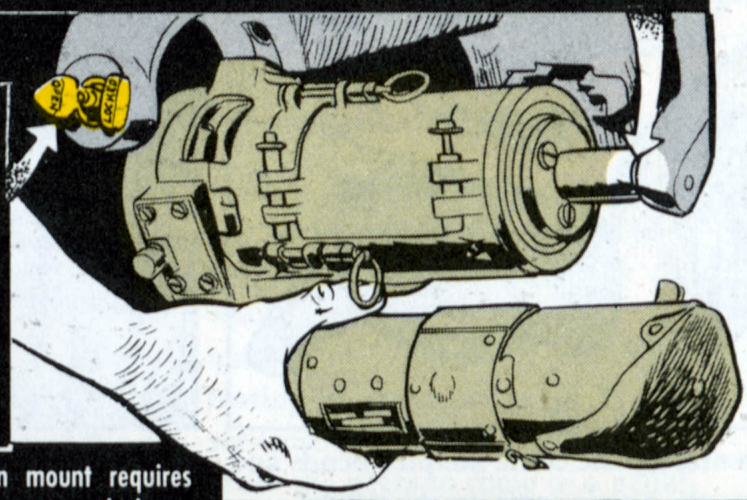


FIRST . . . **MOUNT UP!**

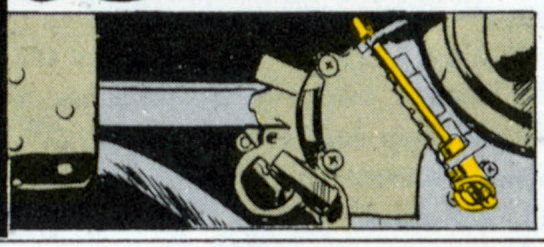
Put the rear support on the aft ball mount. Tilt the front down and slide rear support onto the ball mount.

THEN . . .

Make sure the gun locking mount is unlocked — red arrow pointing forward. When the gun is seated, turn mount lock lever — in either direction — till you hear a solid click! Now the red arrow is pointing aft.

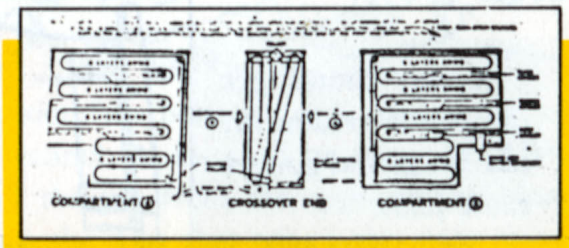


Construction of the gun mount requires that the front quick release pin, which secures the feeder to the gun, be inserted upside down. Safety this pin to keep it from falling out during flight or operation of gun. Thread the wire thru the ring, then over far end of pin and twist



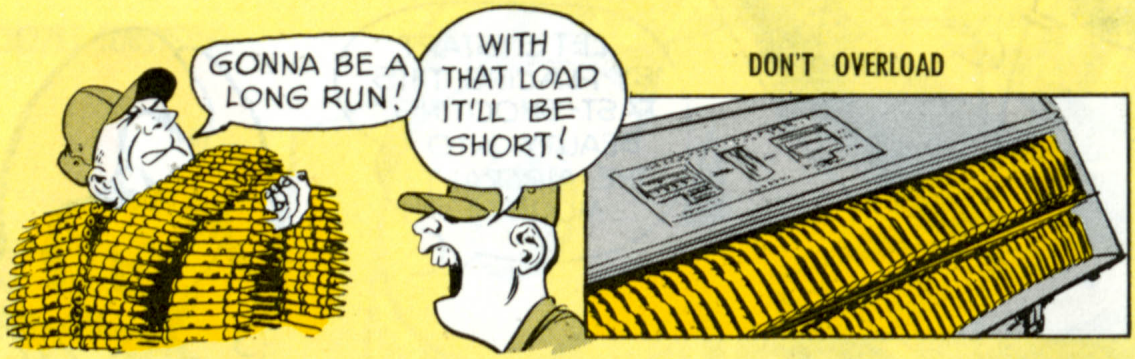
LOADING, AMMO TIPS

Follow instructions on decal on inside of ammo box lid and you'll be sure to load boxes right. Follow the arrow! Watch for long rounds. Your job is easier if you have the 1500-round preloaded belt. But you'll still have to split a belt to get the full 2000 rounds



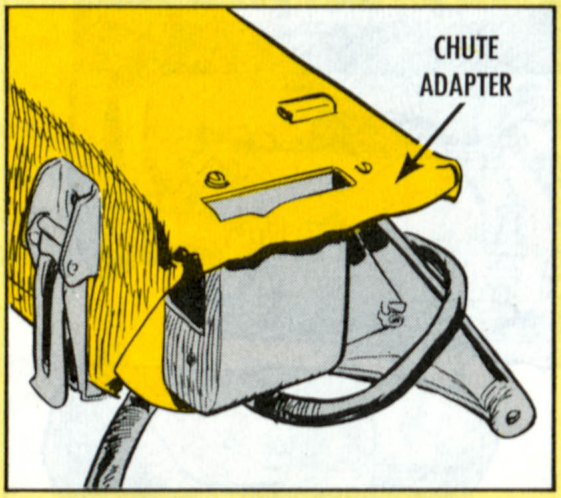
AMMO BOX DECAL

PS MORE



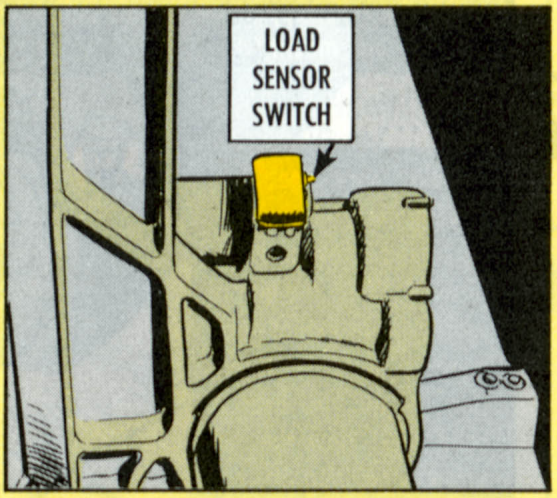
called for. So watch for the long round, Podner! And remember, **NEVER** load more than 2000 rounds, or the ammo will bind and cause a gun jam.

Slide loaded ammo box on to the mount. Be careful not to damage the low ammo load sensor switch. Lifting a 150-lb ammo box puts a strain on any Armymech — so you know what happens when it's dropped on the rear mount assembly. It'll bend every time.



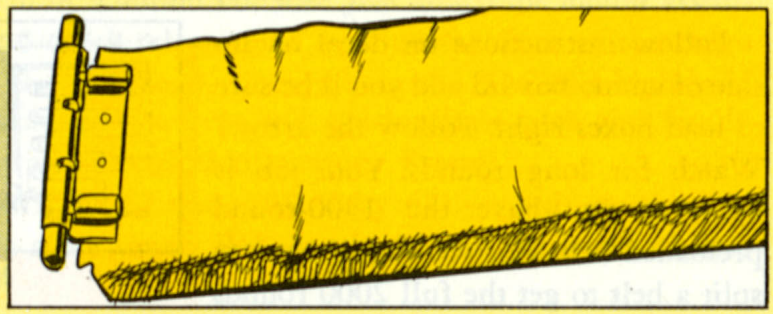
Eventually the chute adapter bends and then the ammo jams up the works.

If it does, try this fix. Reinforce the rear mount assembly by inserting a piece of scrap stainless steel — 3 x 5-1/4 inches — under the skin. Rout out a hole for ammo to feed thru and drill 2 holes for screws to fasten the plate down.



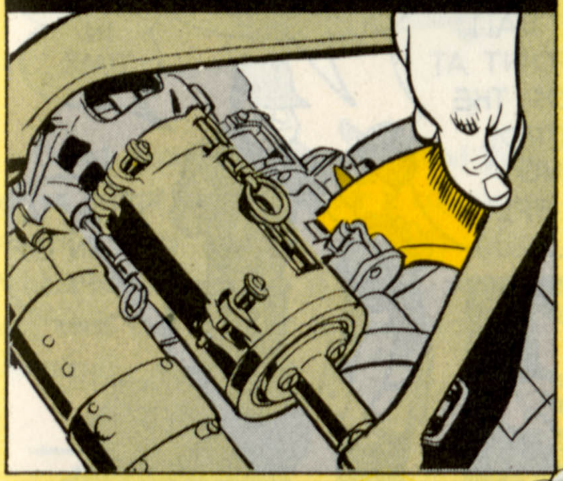
When you lay that heavy ammo box down on the mount, check to see that container is in full contact with the housing before you secure the latches. If the ammo container is cockeyed and the latches are tight the locator block can cause a heap of damage to the container.

Ammo chutes get the gentle treatment, too. Nicks and gouges cause jams.

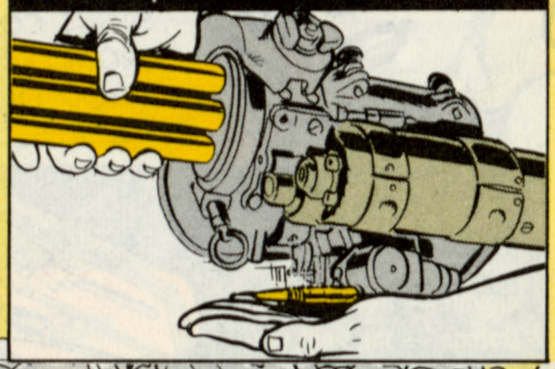


Final check: Be sure the lid is latched tight. Dust, dirt, debris are always being churned up by rotor blades and if enough get into the ammo box you'll have an ammo-blam-o for sure.

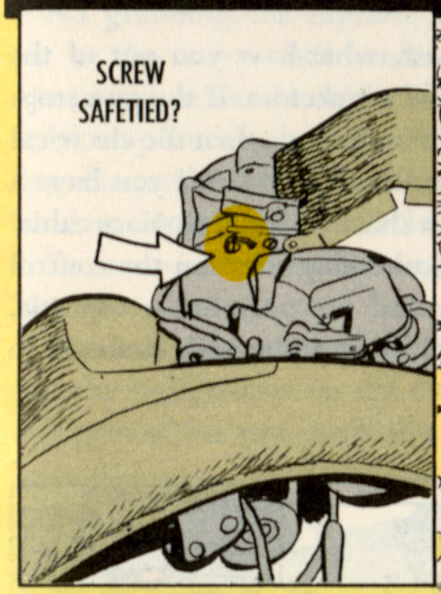
Hook up the ammo chute. Place ammo in the delinker.



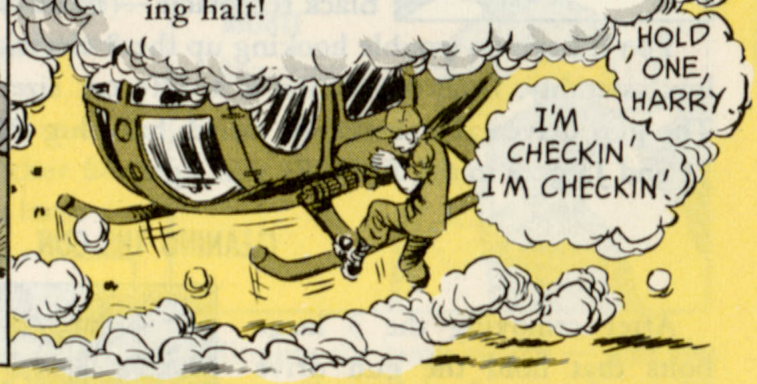
Manually rotate the barrels until one round falls out of delinker. On the XM27E1 the delinker feeder system pulls ammo from the storage box. (On the XM21 you have a cross-over feed system.)



On delinker feeder be sure screw, (P/N 11697842), FSN 5305-898-6498, is safetied. If it backs out, clearing sensor will be out of business.



TIP: The dust seal in the housing and tube assembly can work loose during operation. Check the whole assembly for security frequently — 'specially if you're operating in real dusty areas. If seals are loose or gone, sand and dirt will cause the gears to come to a grinding halt!



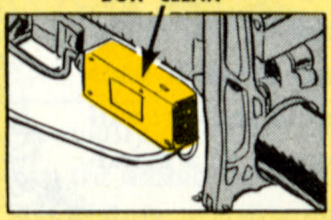
When the gun is in the full down position, the bottom quick release pin — which secures the sight control rod — cannot be installed or removed. **TIP:** Reverse the sight drive fitting and install the pin from the opposite direction. Here's how: Remove adapter chute, then the nuts that secure the sight drive fitting screws are easy to reach.

PS MORE

NOTE: While mounting and hooking up cables be sure electrical current is off, 2 circuit breakers are pulled, ARMED/SAFE switch is in SAFE position, armament SYSTEM MODE switch is OFF.

When gun system is not in use or is out of the aircraft — like maybe in storage — the sight control rod should be stored in the sight box.

KEEP CONTROL BOX CLEAN



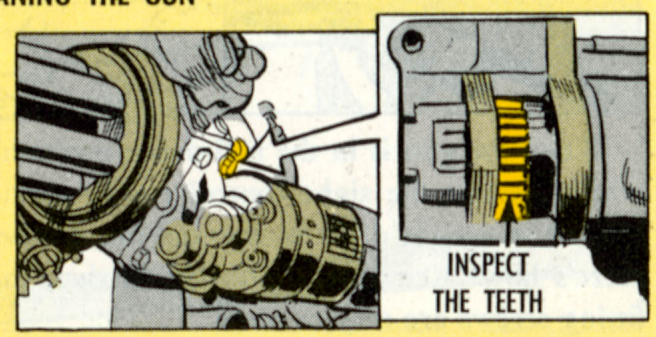
CONTROL BOX

Keep moisture, dirt, dust, what-have-you out of the control box, connections and connectors. If the gun stops firing, trouble-shoot the ammo first . . . then the electrical system. Take a look at the P1 plug to see if you have a black receptacle — means a short for sure. Replace cable.

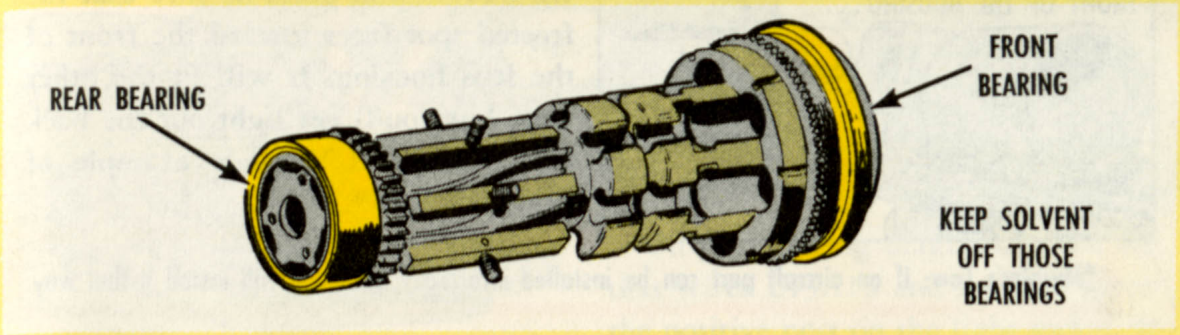
You'll have no trouble hooking up the 2 electrical connections on the control box assembly. Each connection is a different size and fits only one receptacle. The gun drive cable assembly, which has plug P1 at opposite end, connects to J1 and J3 goes to the XM70E1 gun sight.

CLEANING THE GUN

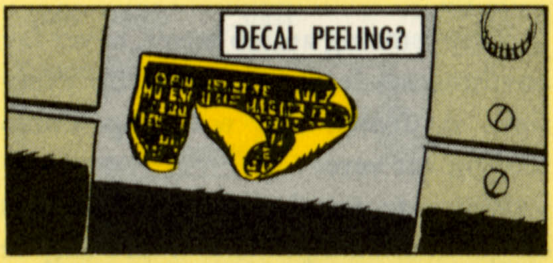
After removing the 3 large bolts that hold the gun drive motor on the gun, inspect all gears for burrs and broken teeth. Anything amiss here, notify direct support.



When removing grease build-up on the main housing assembly, keep all solvent off the front and rear bearings.



Decal data plates for electrical gun-drive motor curl up after a couple of months use. This is the only place where serial number is found, so why not etch the number in the gun-drive housing?



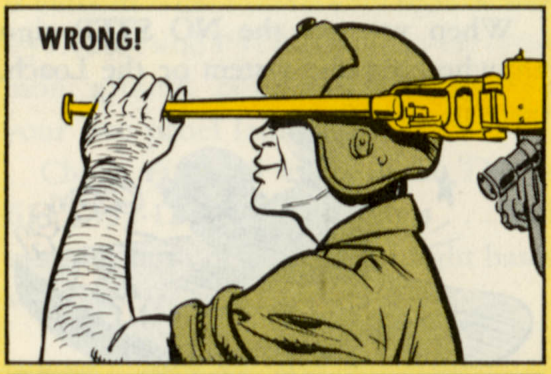
XM70E1 GUN SIGHT

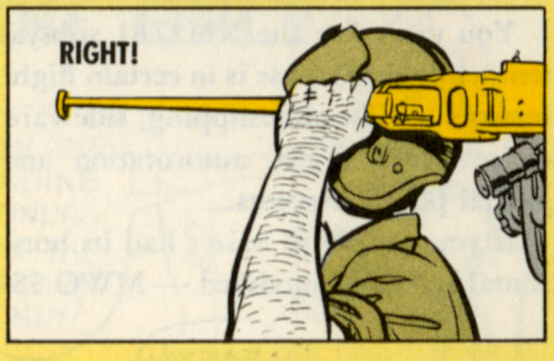
While mounted, just keep the beam-splitter and housing lens clean. Soft tissue or rag is called for. Never use greasy paper or rag.

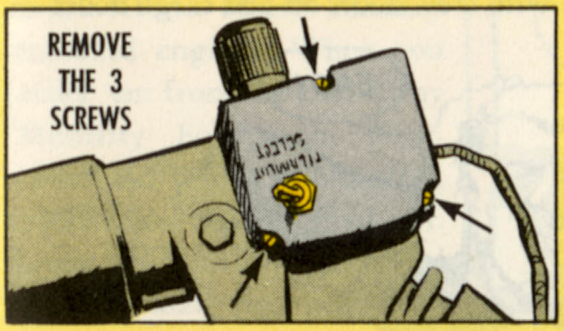
No grabbing the tapered arm way out on the end — it'll bend or break. Also this is no hand hold for pilot, crew chief, co-pilot or observer. When putting the arm in stowed position, place hand near lens housing and close firmly.

To remove the lamp housing, remove 3 screws.

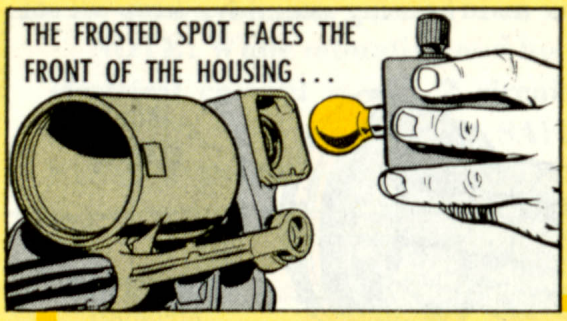
The bulb (lamp) is a 2-filament deal and the light shines on the etcher filament. So when you check the lamp — by flipping the lamp switch — and you find one filament broken, replace with a new lamp. A 1-filament lamp while hosing down a tree line is risky business. If it gets busted there's no way to sight. Right? Right!







P.S MORE



If you have to replace the lamp — GE 844 — you gotta be sure that the frosted spot faces toward the front of the lens housing. It will fit the other way, but you'll get light out the back end . . . a real bonafide example of Murphy's Law*.

*Murphy's Law: If an aircraft part can be installed incorrectly, someone will install it that way.

ROUND-UP TIPS

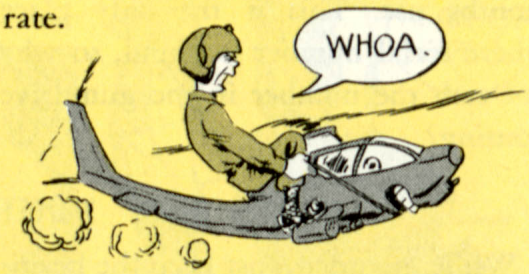
When storing ammo boxes, never lay anything on 'em. Bends 'em up every time. A dented box will stop ammo feeding for sure.

Watch to see that all ball bearings on quick release pins are where they're supposed to be — in the pin — present and accounted for!

When you see the NO STEP sign anywhere on the system or the Loach, obey it.

You can't fire the XM27E1 subsystem while the Cayuse is in certain flight regimes — like slideslipping, sideward or rearward flight, autorotation and partial power descents.

If your minibird hasn't had its horizontal stabilizer modified — MWO 55-1520-214-30/6 — you can only fire the minigun at the 4000-rounds-per-minute rate.

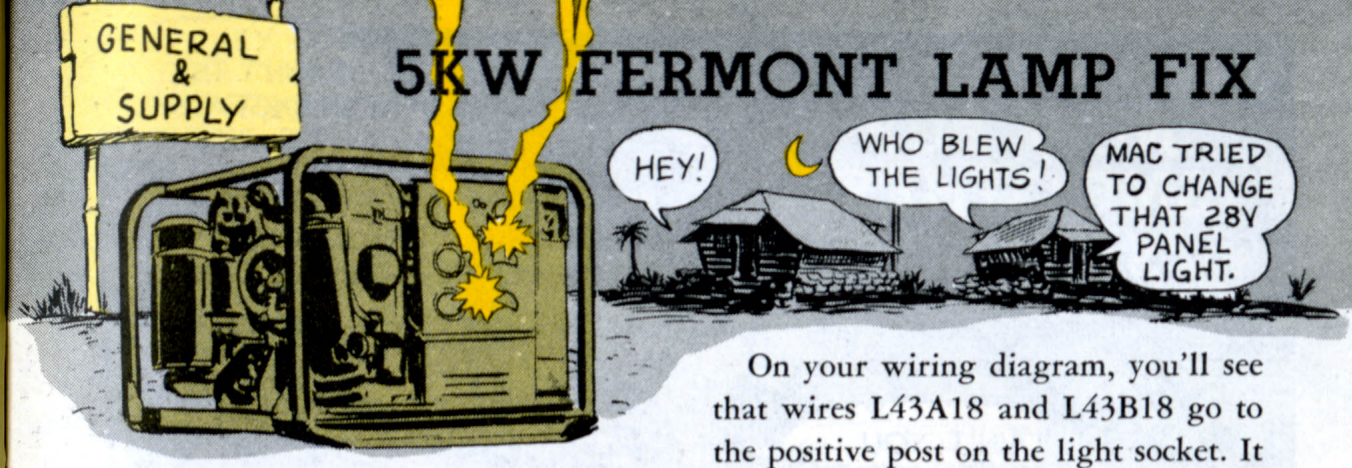


Pilots will have to hold back on the reins and use only 80 knots to push the Cayuse though the sky when the compartment doors are off and the cargo compartment is soundproofed.

If you have 40 lbs of fuel — or less — or when the low fuel caution light flashes, you can't do any uncoordinated maneuvers.

If the cargo compartment is not soundproofed, the Loach may be flown with all doors off or with crew compartment doors on the cargo compartment door off. You never fly the Loach with crew doors off and cargo doors on.

5KW FERMONT LAMP FIX

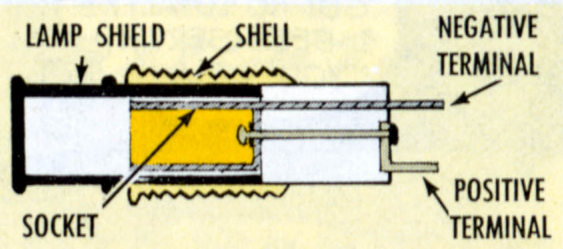


The 28V panel light on your 5KW SF-5-MD Fermont generator set can put your power pump out of business.

Some of these sets got out with the positive terminal on the lamp base wired to ground and the negative lead wired hot—to the (+) side, that is. If you try to change a burnt-out bulb and scrape the lamp shield against the socket, you get a direct short.

On these sets, any wire marked N is a ground wire, and you hook the N pole on this lamp this way to the lamp base. The "hot" or (+) wire goes to the center contact prong. Wiring is the same for HF set lights, too.

On your wiring diagram, you'll see that wires L43A18 and L43B18 go to the positive post on the light socket. It



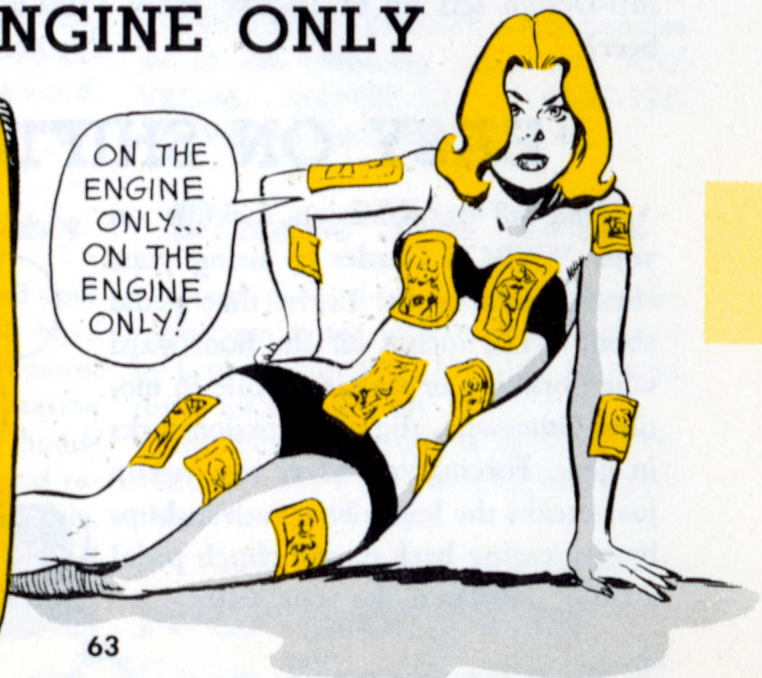
SOCKET IS IN DIRECT CONTACT WITH SHIELD. IF WIRES ARE REVERSED, A SHORT RESULTS.

is marked with a small (+) sign. Wires P31A18N and P31B18N go to the common ground pole halfway between your two panel lamps.

Check Figs 1-5 and 1-6 in TM 5-6115-332-12 for the diagrams . . . and examine both of those panel light bases while you're at it.

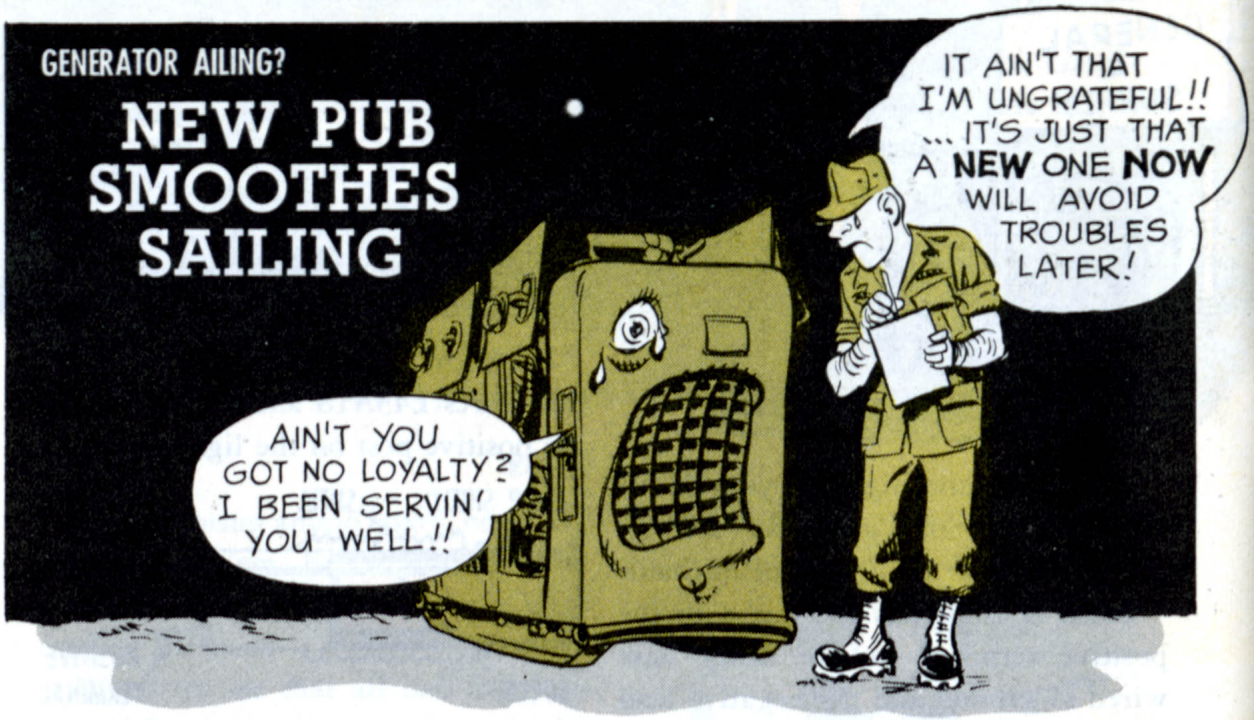
MIL STD ENGINE ONLY

That Connie decal telling you to keep your engine cool is only to be used with your 1-1/2-HP to 20-HP military standard engines. When you order 'em from the U.S. Army Mobility Equipment Command, ATTN: AMSME-MGI, 4300 Good Fellow Blvd., St. Louis, Mo., 63120, be sure and tell how many you need.



GENERATOR AILING?

NEW PUB SMOOTHES SAILING



Want to get the jump on generator breakdowns?

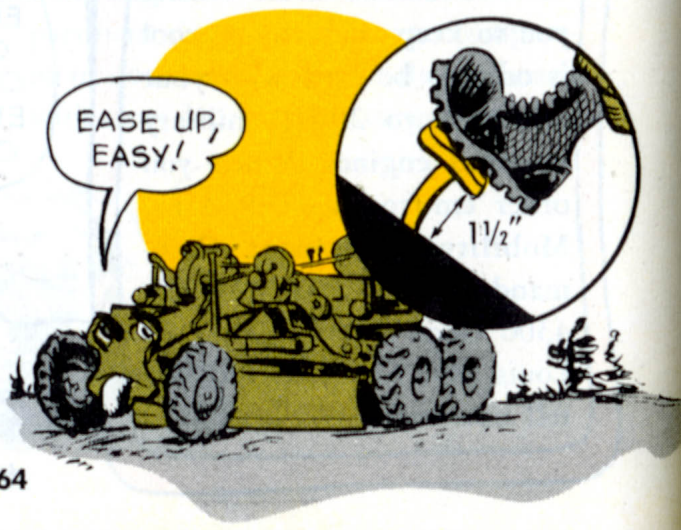
You can head 'em off at the pass with the aid of TB 5-6100-201-15 (Jun 68) Scheduled Replacement of Generator Sets.

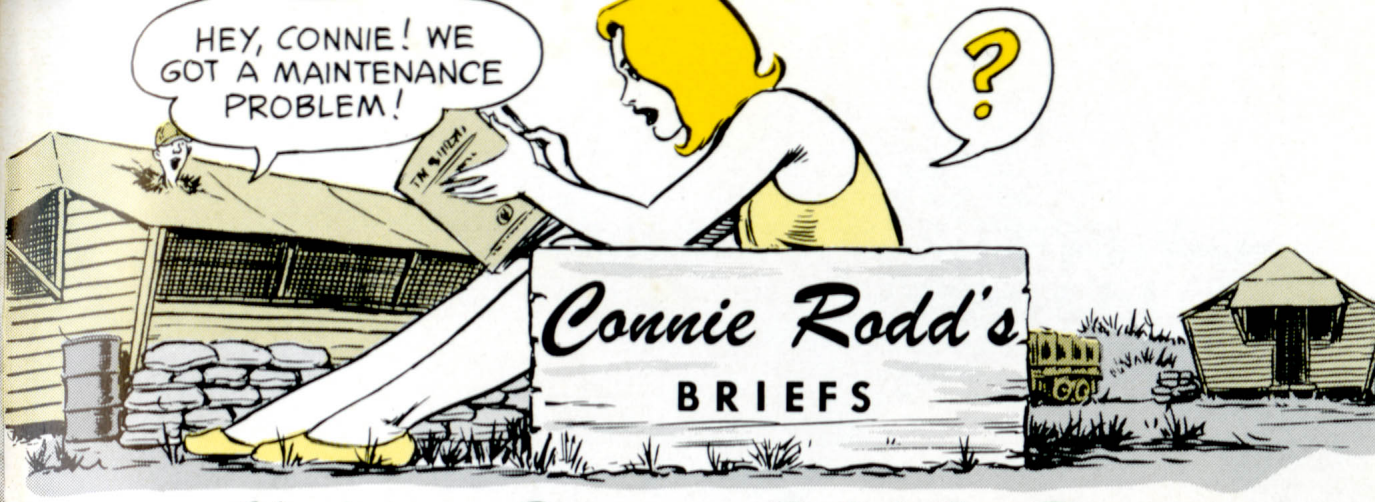
All the regs and supply dope you'll need to get new sets for old are right in the pub. Just fill out the forms and stand back—you want to give 'em room to park your new rig.

Besides telling you when and how you make the switch, the new TB gives a list (in Appendix II) of the whole Mil-Design generator family, tells you how much service you ought to get out of commercial (or Performance Spec) sets, what the red-line is on Mil-Design life—and even allows you a new engine on Mil-Design sets up to 10-KW every 1500 hours. Now you want egg in your beer?

EASY ON SHIFTING 440HA

Head off transmission lockups on your WABCO Grader by using your clutch pedal right. Leave that pedal about 1-1/2 inches off the floorboard when braking or shifting while in motion. Otherwise, the transmission locks in gear. Forcing to relieve the lockup just breaks the lever. Free such lockups by just easing back on the clutch pedal a little . . . then make your shifts.





Checkout on Sets

Your latest listing of components to be removed from equipment assemblages and sets and reported as separate end items is AR 725-8 (9 Oct 68). You need it to update supply and equipment log records. It includes FSN's, new and old LIN's plus makes and models affected. This AR supersedes DA Cir 725-11 (May 67) and USAMC Msg 19789 (Apr 68).

Have You Heard???

You're now authorized 5-ton motor vehicle maintenance trestles, FSN 4910-262-0392, in your common tool kits on an "as required" basis. Ch 3 (Dec 68) to SC 4910-95-CL-A74 (No. 1 Common) and Ch 3 (Jan 69) to SC 4910-95-CL-A72 (No. 2 Common) give you the word. You don't get the trestles with your set, but you order 'em if you need 'em.

Canvas Cooling Caper

Been scorching the canvas tail on your PU-619M generator rig when you have to move in a hurry? Well, burn no more! Take off the exhaust pipe extension between moves. Just protect your hands when you remove the hot pipe, and reinstall it when you set up to work again.

PLL For Reserves

AR 735-6 (Nov 68), Army Reserve Maintenance Repair Parts Procedures is needed along with AR 735-35 for setting up PLL SOP for the Reserve types. And, where the 2 regs disagree, the -6, has the last word.

Need an Armored Car Radio?

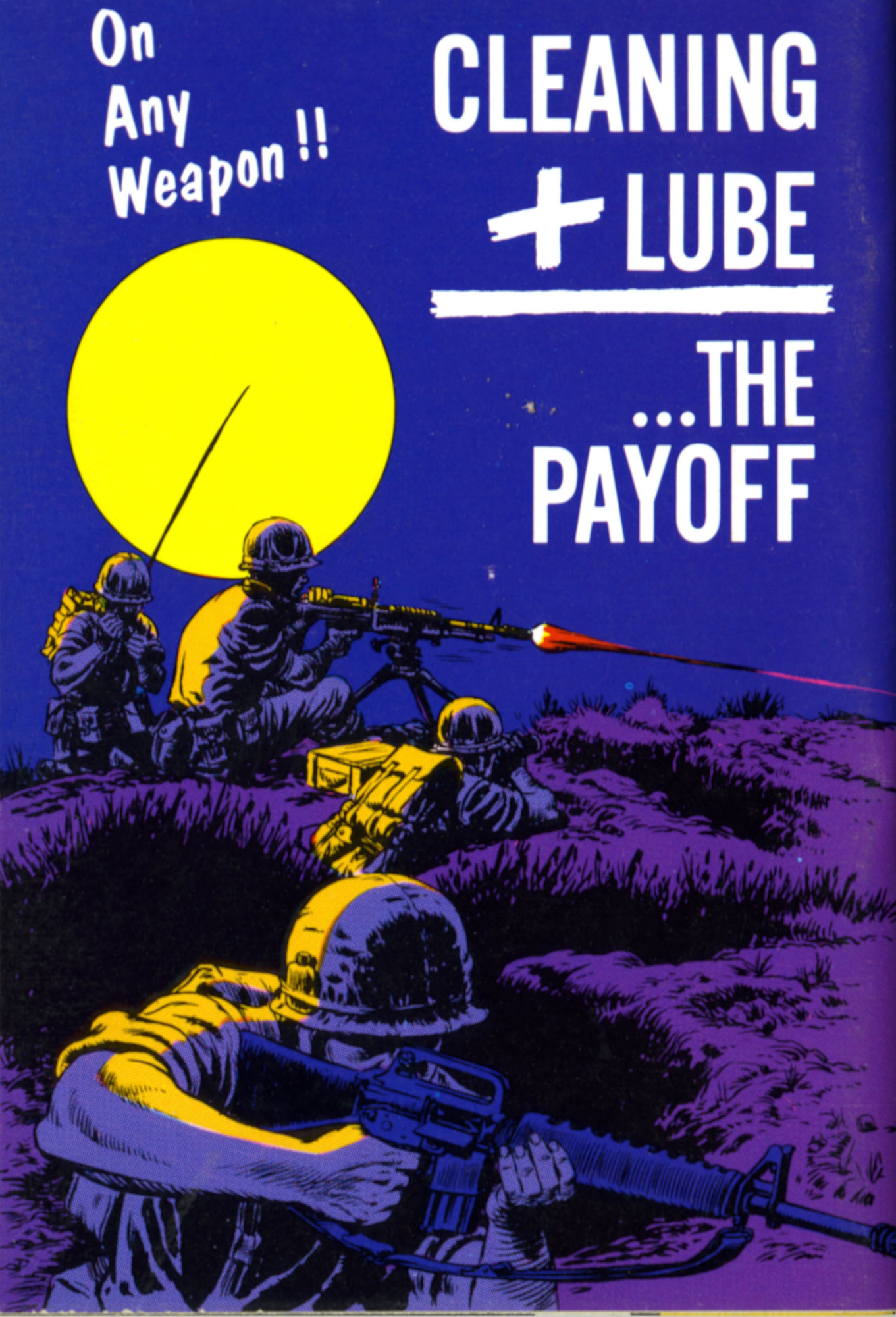
If radio set installation units for your XM706E1 light armored car have you bugged, hang in there, friend. You need installation unit FSN 5830-135-0148 for the AN/VIC-1 intercom set; FSN 5820-935-8164 for the AN/VRC-47 radio set, and FSN 5820-143-3521, which handles all of the following radio sets: AN/VRC-46, AN/VRC-53, AN/GRC-125, AN/VRC-164 and AN/GRC-160.

Discard That Guard

Good, g-o-o-d news for all you radio repairman types who've been bugged by broken guards on AN/VRC-12 series radio set components.

The beautiful word is in MWO 11-5820-401-20/1 (17 Jan 69), which provides a set of handles.

Would You Stake Your Life right now on the Condition of Your Equipment?


On Any Weapon !!
CLEANING
+ LUBE
...THE PAYOFF